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DEPARTMENT OF MINES AND RESOURCES, CANADA
(SURVEYS AND ENGINEERING BRANCH—DOMINION WATER AND POWER BUREAU)

Report on
TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK
1945



OTTAWA
EDMOND CLOUTIER,
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

PART 2 — PLANS

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Canada. Dominion Water and Power Bureau.

DEPARTMENT OF MINES AND RESOURCES, CANADA
(SURVEYS AND ENGINEERING BRANCH—DOMINION WATER AND POWER BUREAU)

Report on
TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK
1945

by

H. G. ACRES & COMPANY
Consulting Engineers
Niagara Falls, Canada

OTTAWA
EDMOND CLOUTIER,
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1946

PART 2 — PLANS

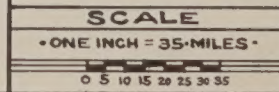
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LIST OF PLATES

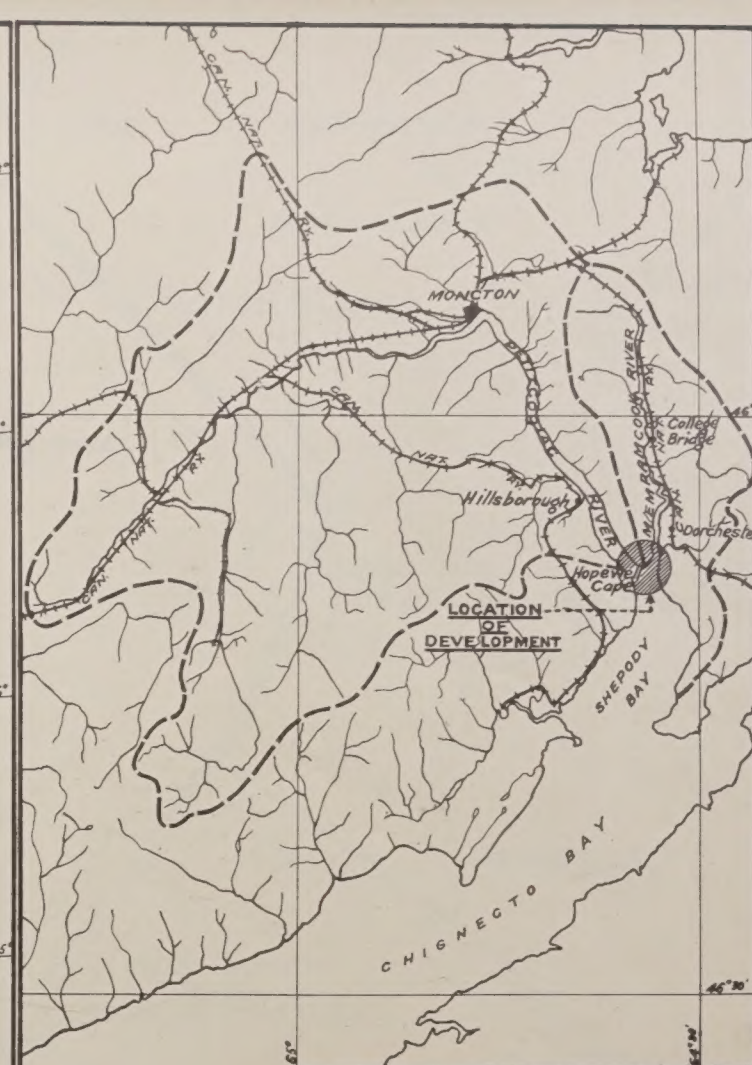
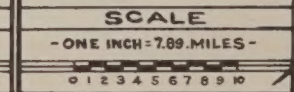
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			"	B-11	Ditto—Station 72,000 N. to Station 78,000 N.



MARITIME PROVINCES



PETITCODIAC AND MEMRAMCOOK RIVERS



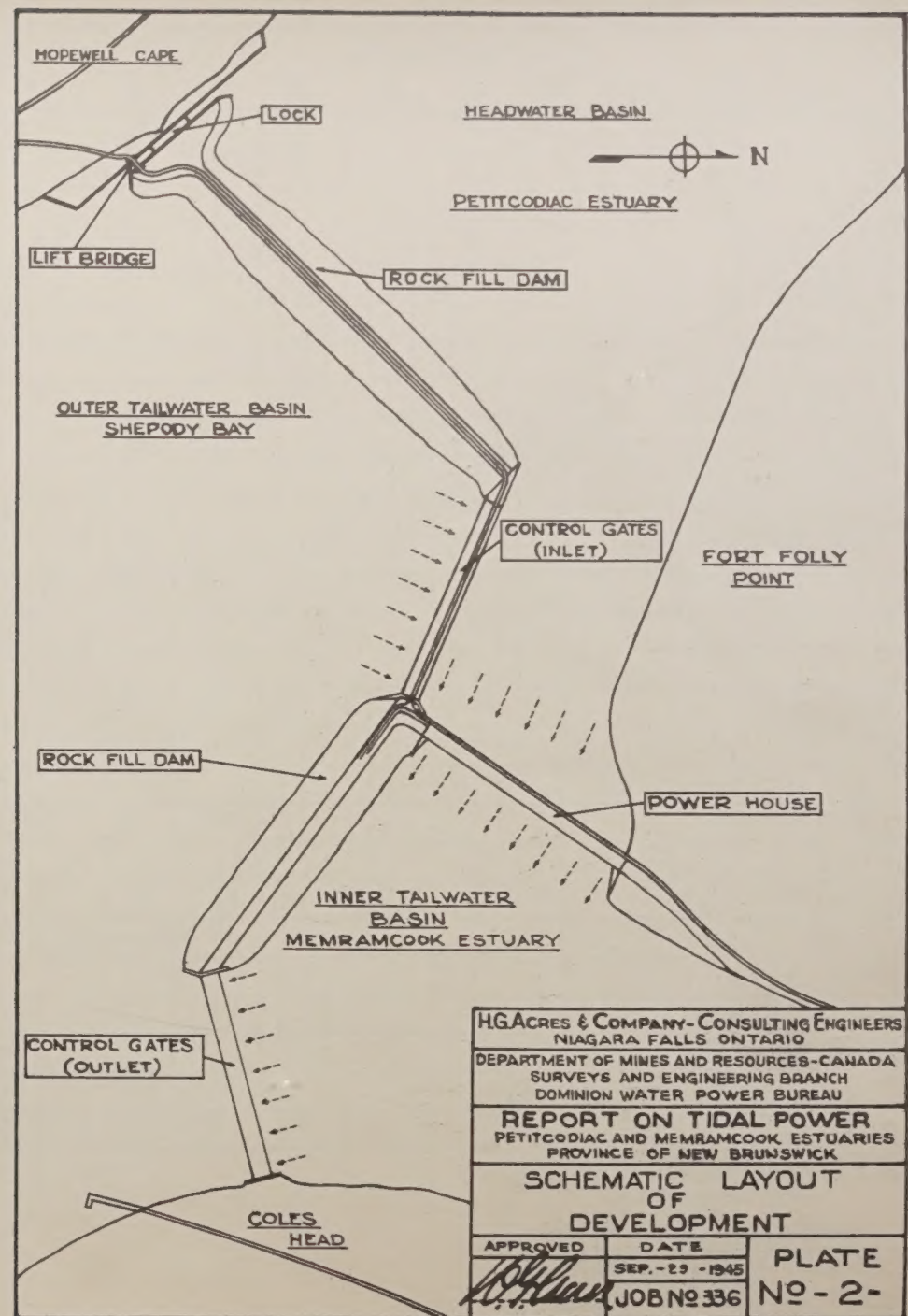
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REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

MAPS OF MARITIME PROVINCES
AND
PETITCODIAC & MEMRAMCOOK RIVERS

APPROVED	DATE	PLATE No-1-
<i>[Signature]</i>	SEPT-29-1945 JOB-Nº336	



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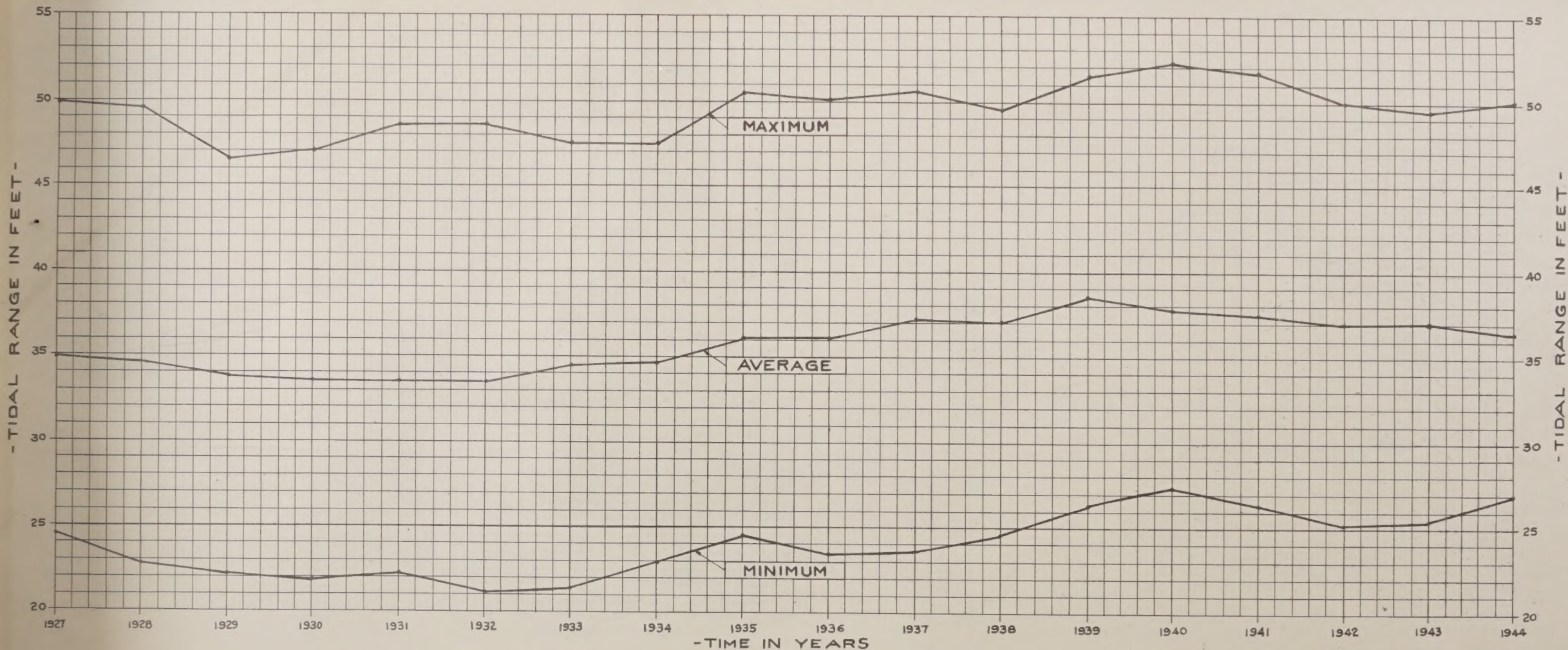
REPORT ON TIDAL POWER
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PROVINCE OF NEW BRUNSWICK

SCHEMATIC LAYOUT
OF
DEVELOPMENT

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<i>H. H. H.</i>	SEP. - 23 - 1945	
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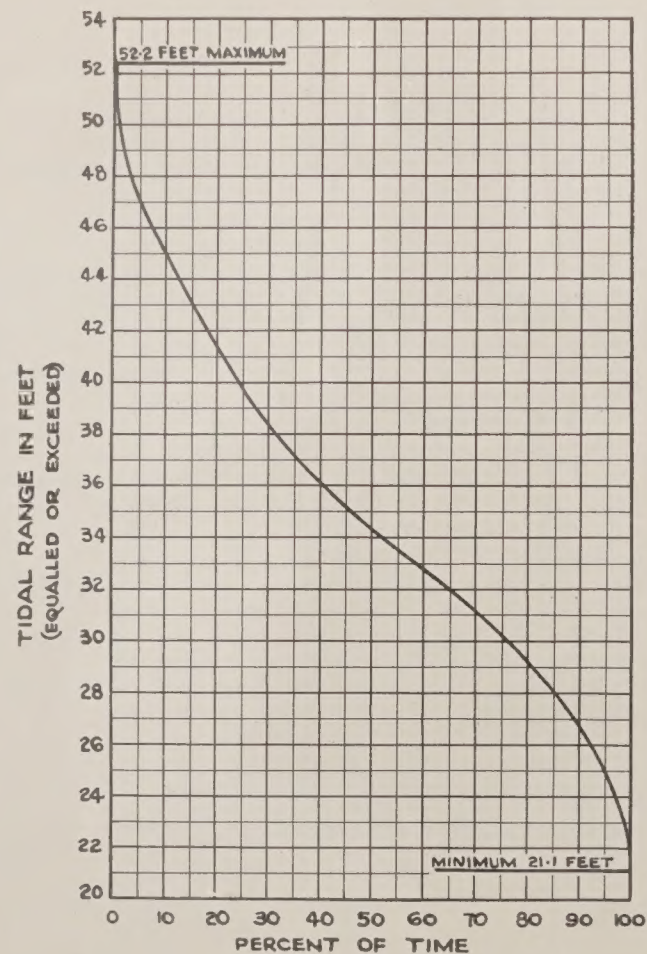
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REPORT ON TIDAL POWER PETITCODIAK AND MEMBRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
REPRODUCTION OF TYPICAL TIDAL GAUGE CHART		
APPROVED	DATE	PLATE No-3-
<i>[Signature]</i>	SEP-29-1945 JOB No 336	



NOTE
THE AVERAGE RANGE PLOTTED FOR EACH YEAR IS THE AVERAGE OF THE SPRING AND NEAP RANGES FOR THE YEAR.

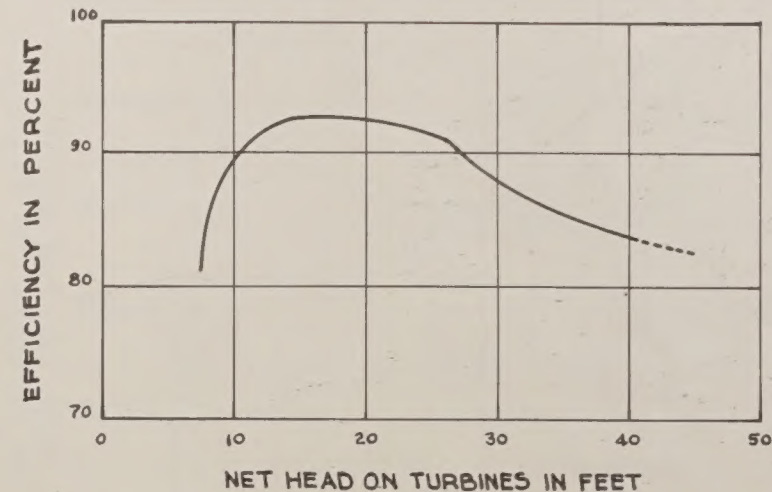
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REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
YEARLY TIDAL RANGES AT HOPEWELL CAPE		
APPROVED <i>[Signature]</i>	DATE SEPT. 29-1945	PLATE No-4-
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REPORT ON TIDAL POWER
 PETITCODIAC AND MEMRAMCOOK ESTUARIES
 PROVINCE OF NEW BRUNSWICK

**DURATION CURVE
 OF
 TIDAL RANGE**

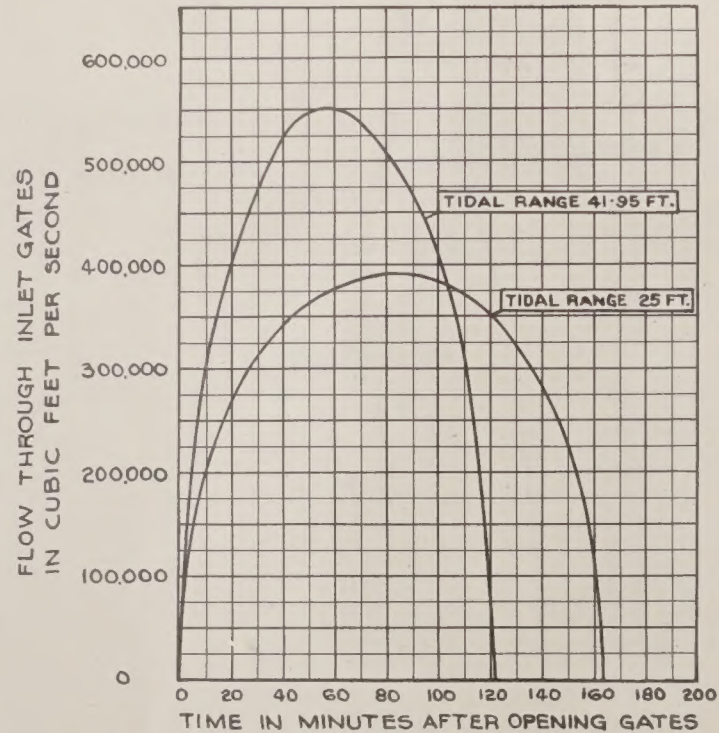
APPROVED	DATE	PLATE
<i>H. G. Acres</i>	SEPT. 29 - 1945	NO - 5 -
	JOB NO 336	



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 PROVINCE OF NEW BRUNSWICK

**TYPICAL EFFICIENCY CURVE
 FOR
 PROPELLER TYPE RUNNERS**

APPROVED	DATE	PLATE
<i>H. G. Acres</i>	SEP. 29 - 1945	NO - 6 -
	JOB NO 336	



NOTE

ALL GATES ASSUMED
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SIMULTANEOUSLY.

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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

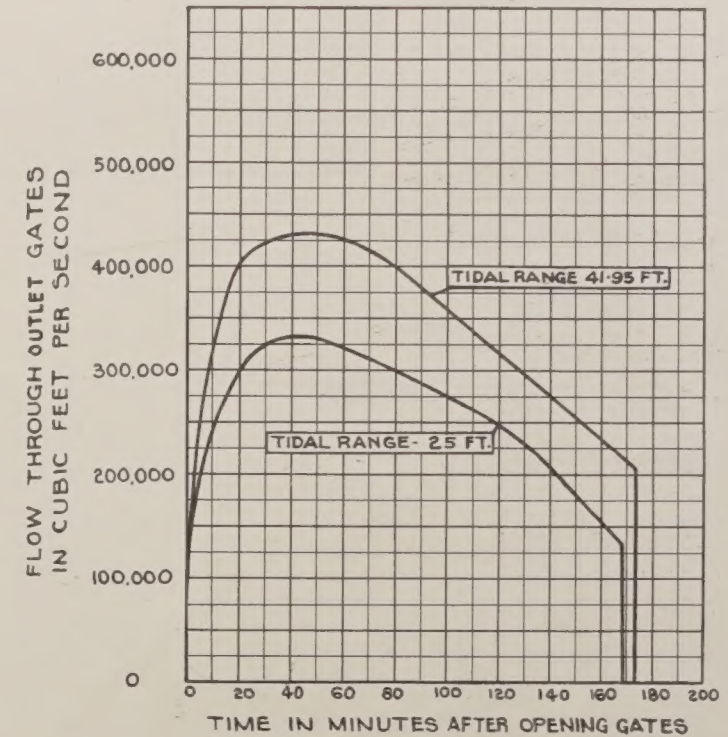
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DATE

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PLATE
NO - 7 -



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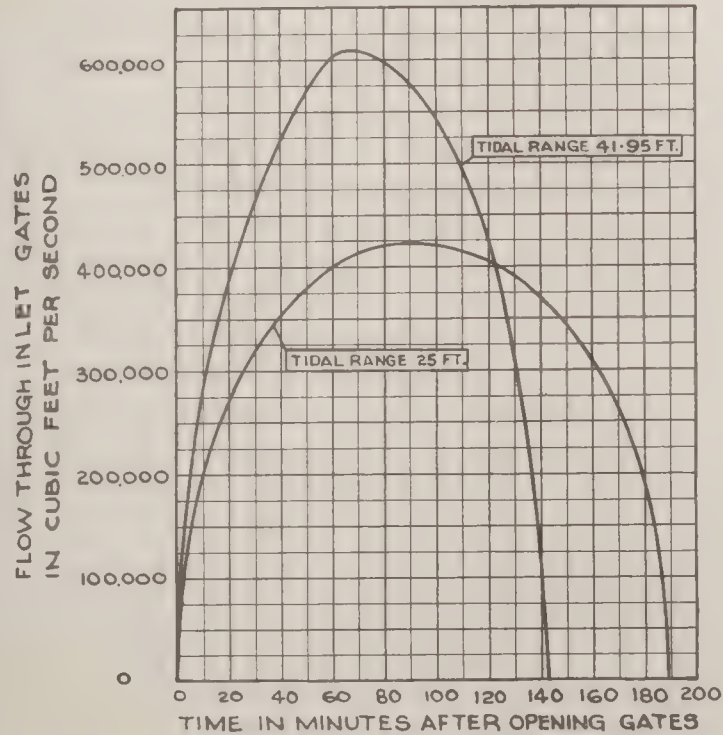
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SEPT. 29 - 1945

JOB NO 336

PLATE
NO - 8 -



NOTE
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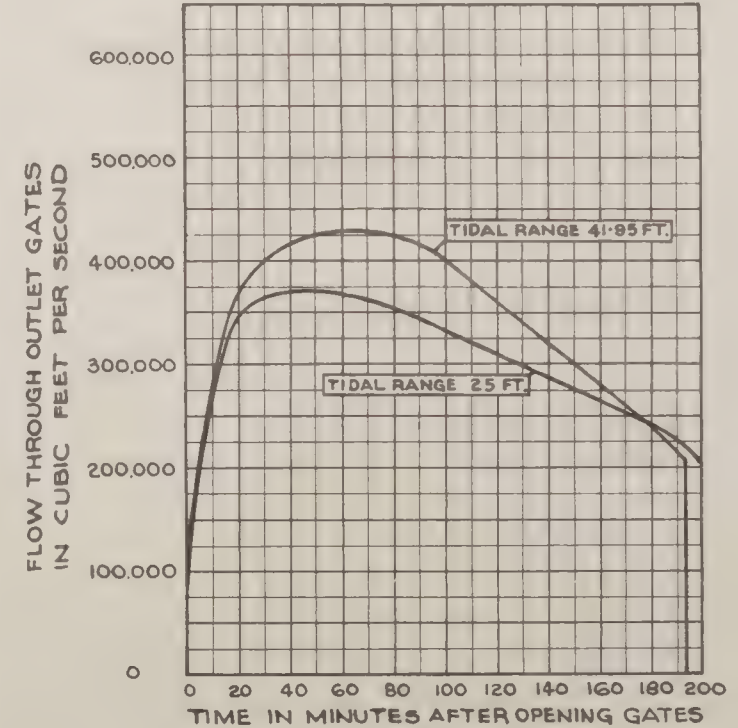
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POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No-9-
<i>H. G. Acres</i>	SEPT. 29-1945	
JOB No 336		



NOTE
ALL GATES ASSUMED
OPENED AND CLOSED
SIMULTANEOUSLY.

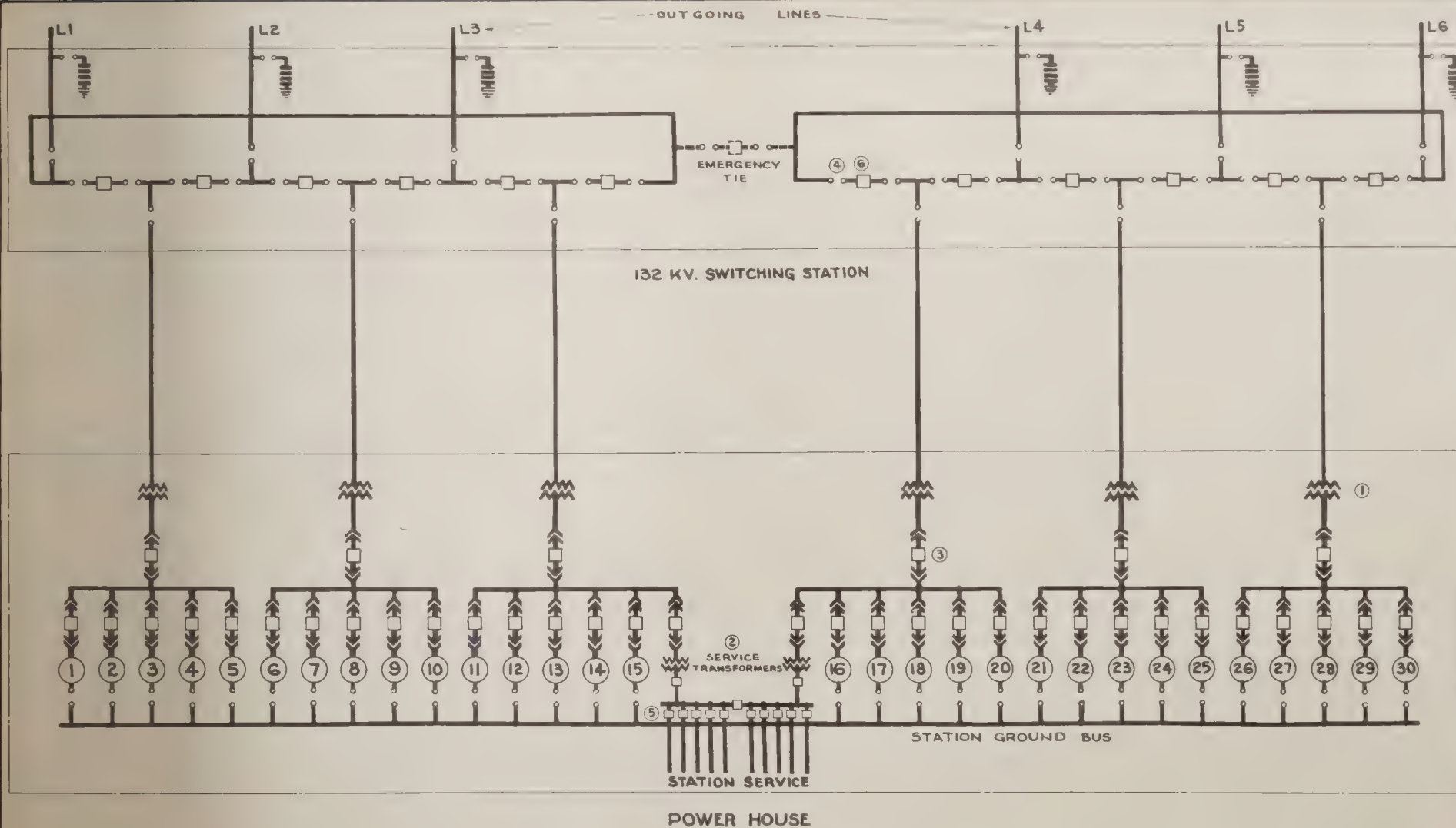
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POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No-1C-
<i>H. G. Acres</i>	SEPT. 29-1945	
JOB No 336		



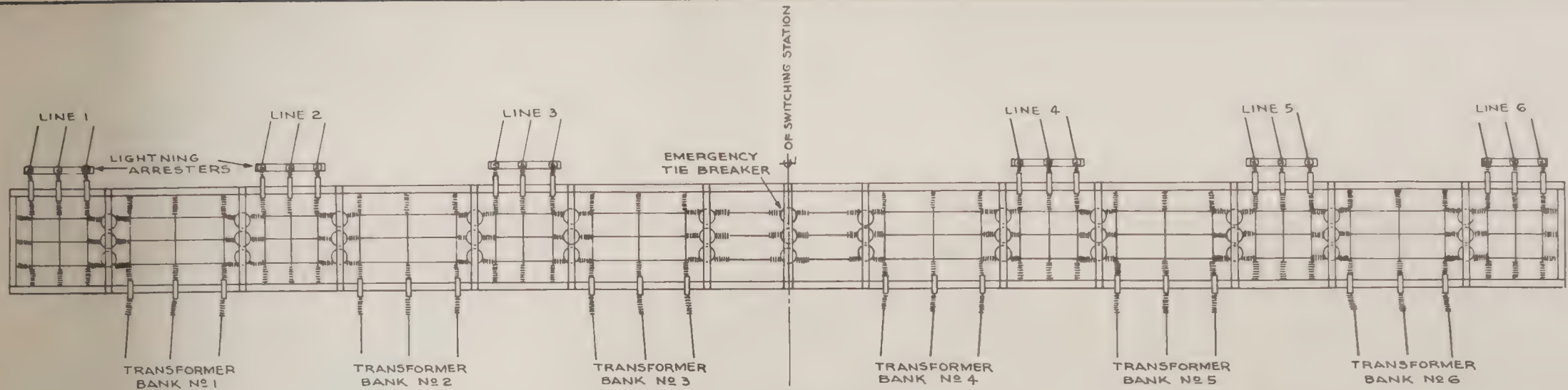
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PROVINCE OF NEW BRUNSWICK

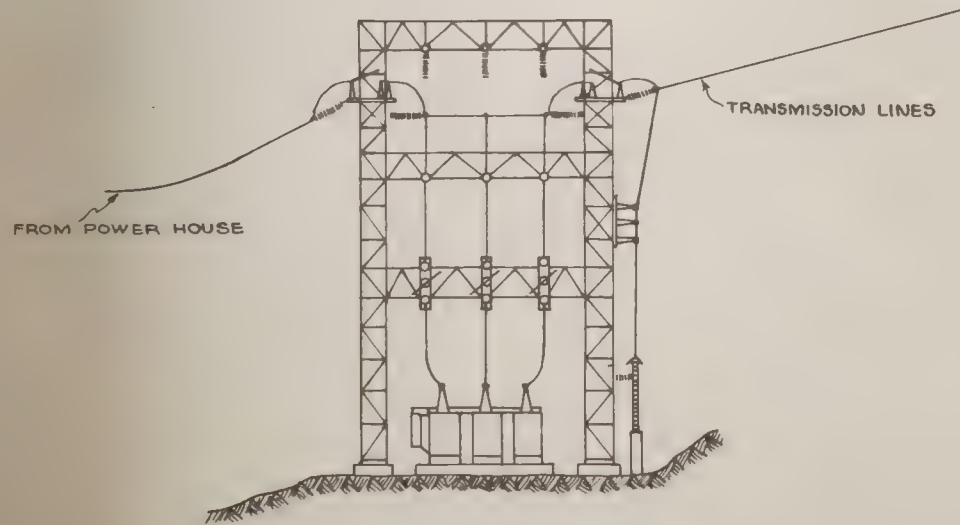
**ELECTRICAL
SINGLE LINE DIAGRAM**

APPROVED <i>H. G. Acres</i>	DATE SEPT. 29 1945	JOB NO - 336	PLATE NO - 11
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PLAN

SCALE 1 INCH = 40 FEET



TYPICAL CROSS-SECTION

SCALE 1 INCH = 20 FEET

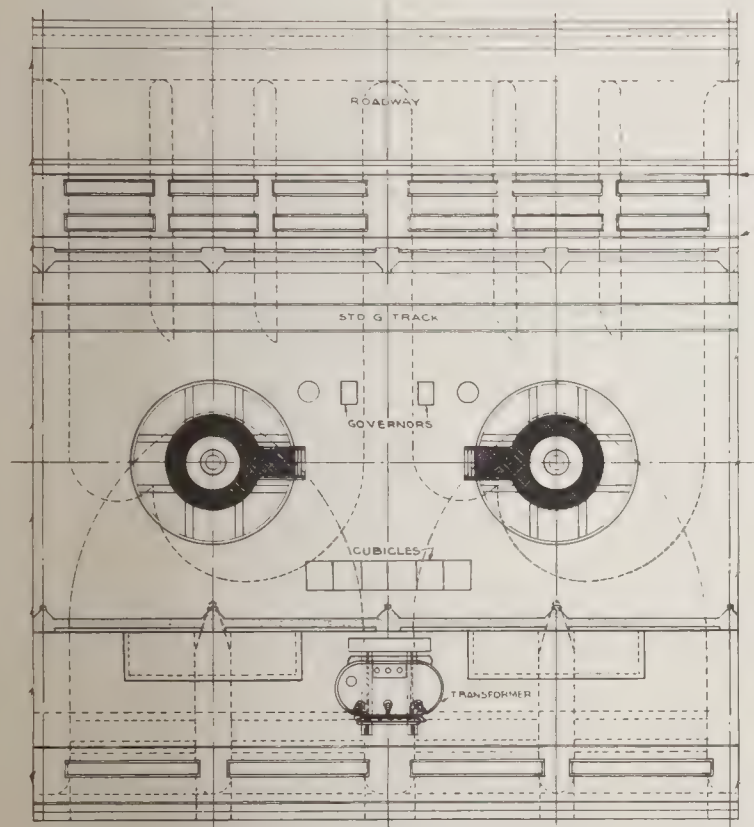
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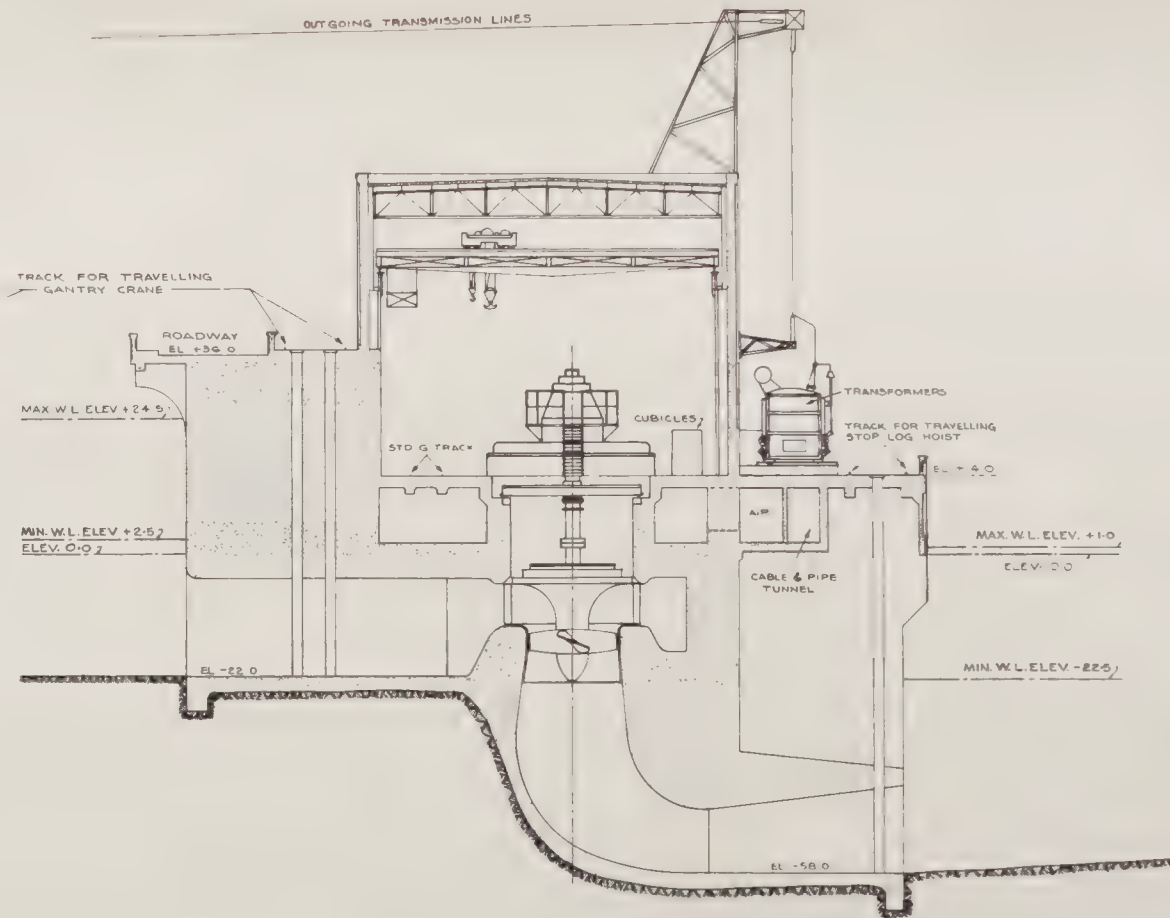
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PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

SWITCHING STATION

APPROVED	DATE	PLATE
<i>[Signature]</i>	SEPT. 29-1945	No -12-
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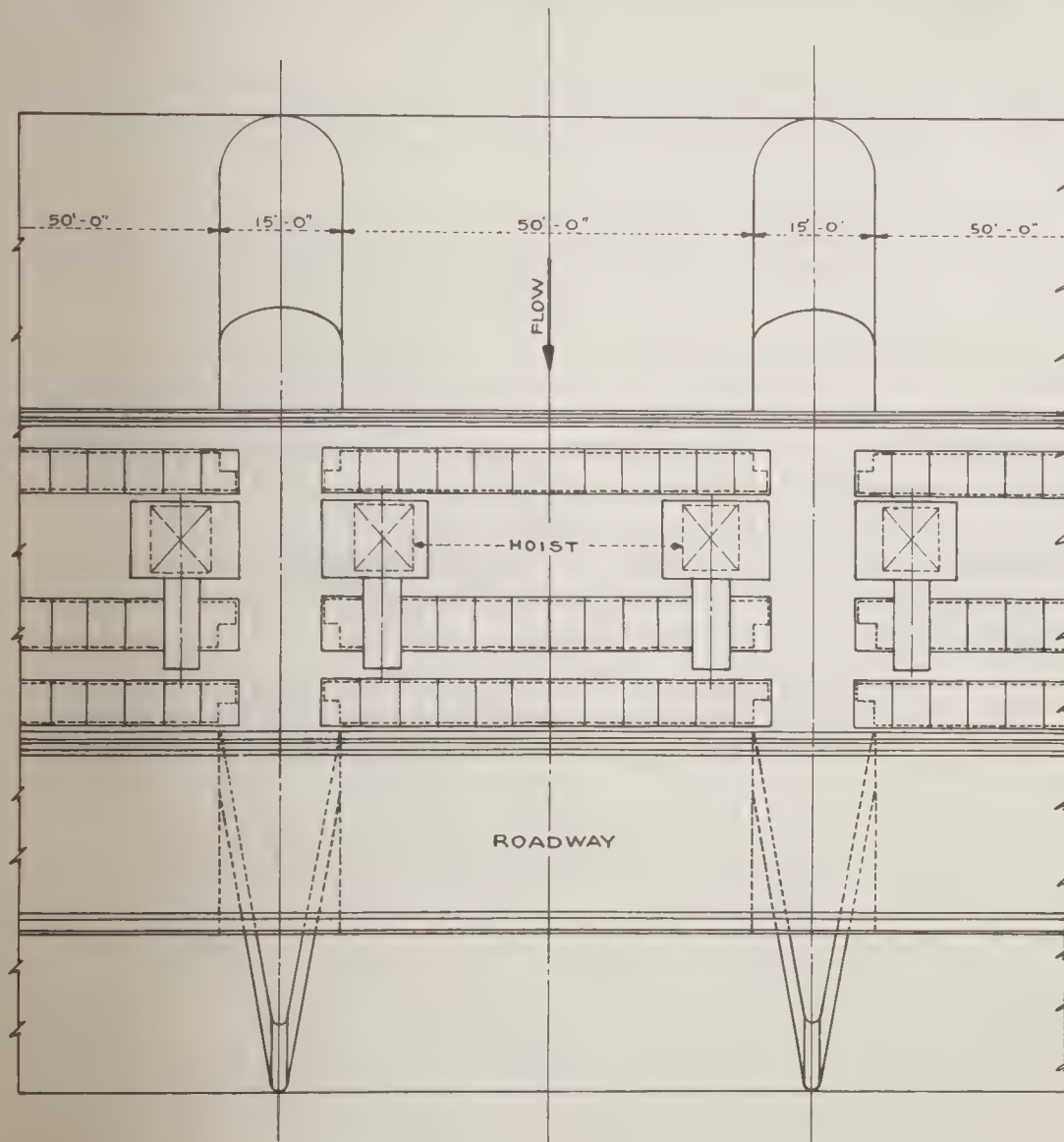


PART PLAN OF TWO UNITS

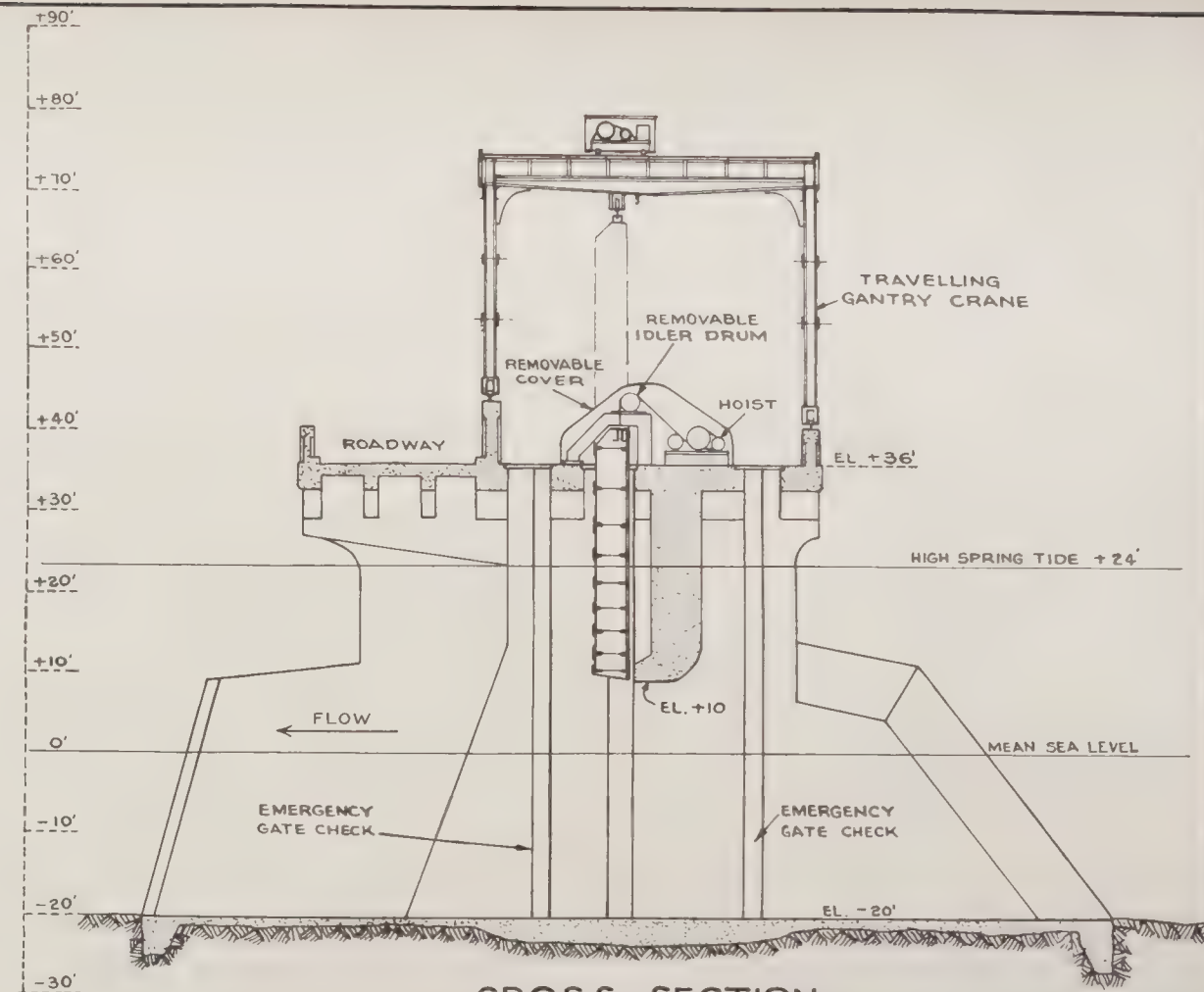


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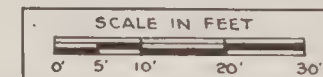
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POWER HOUSE TYPICAL PART PLAN & CROSS SECTION		
APPROVED <i>[Signature]</i>	SEPT 29-1945 JOB N ^o 336	PLATE N ^o 14



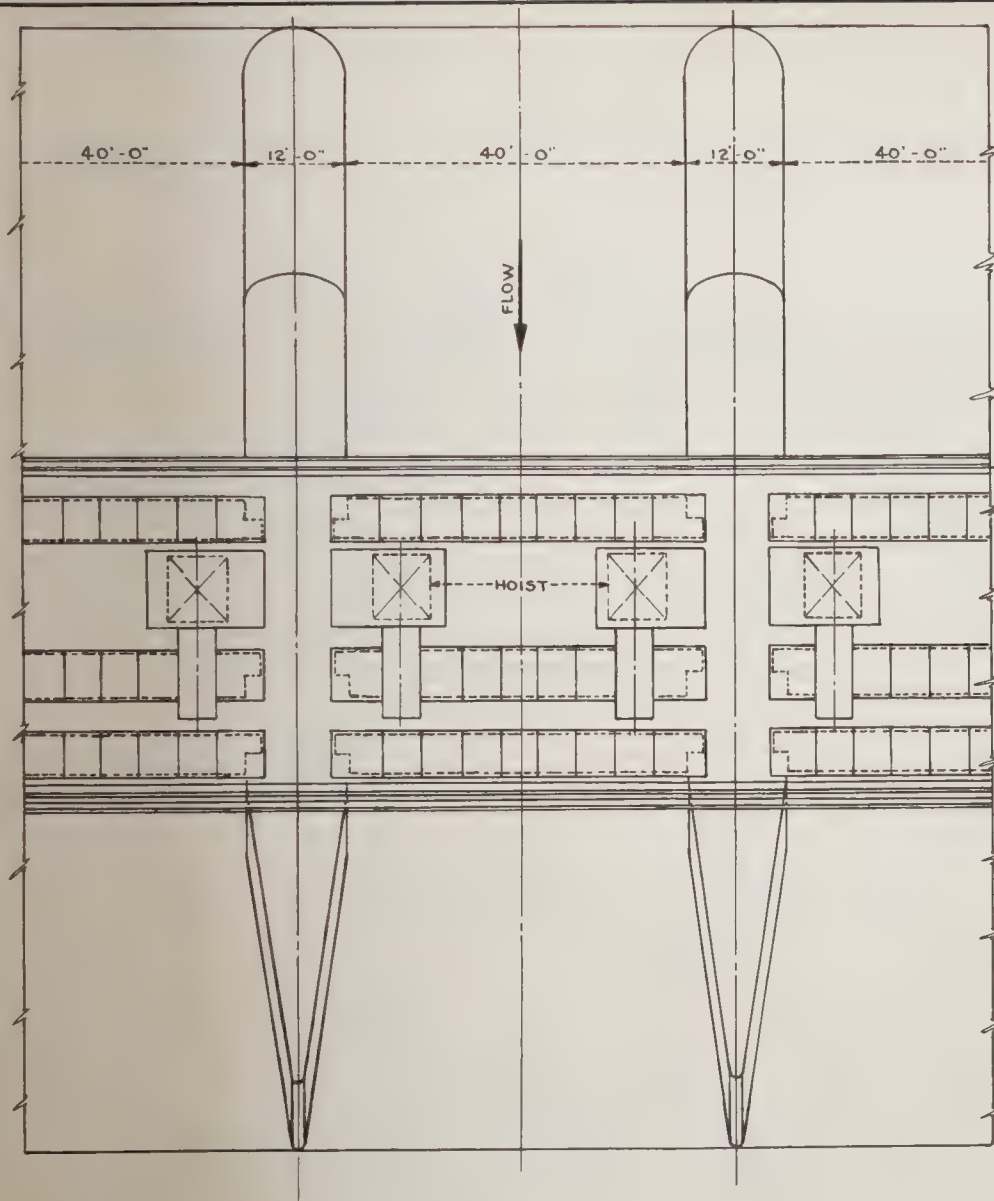
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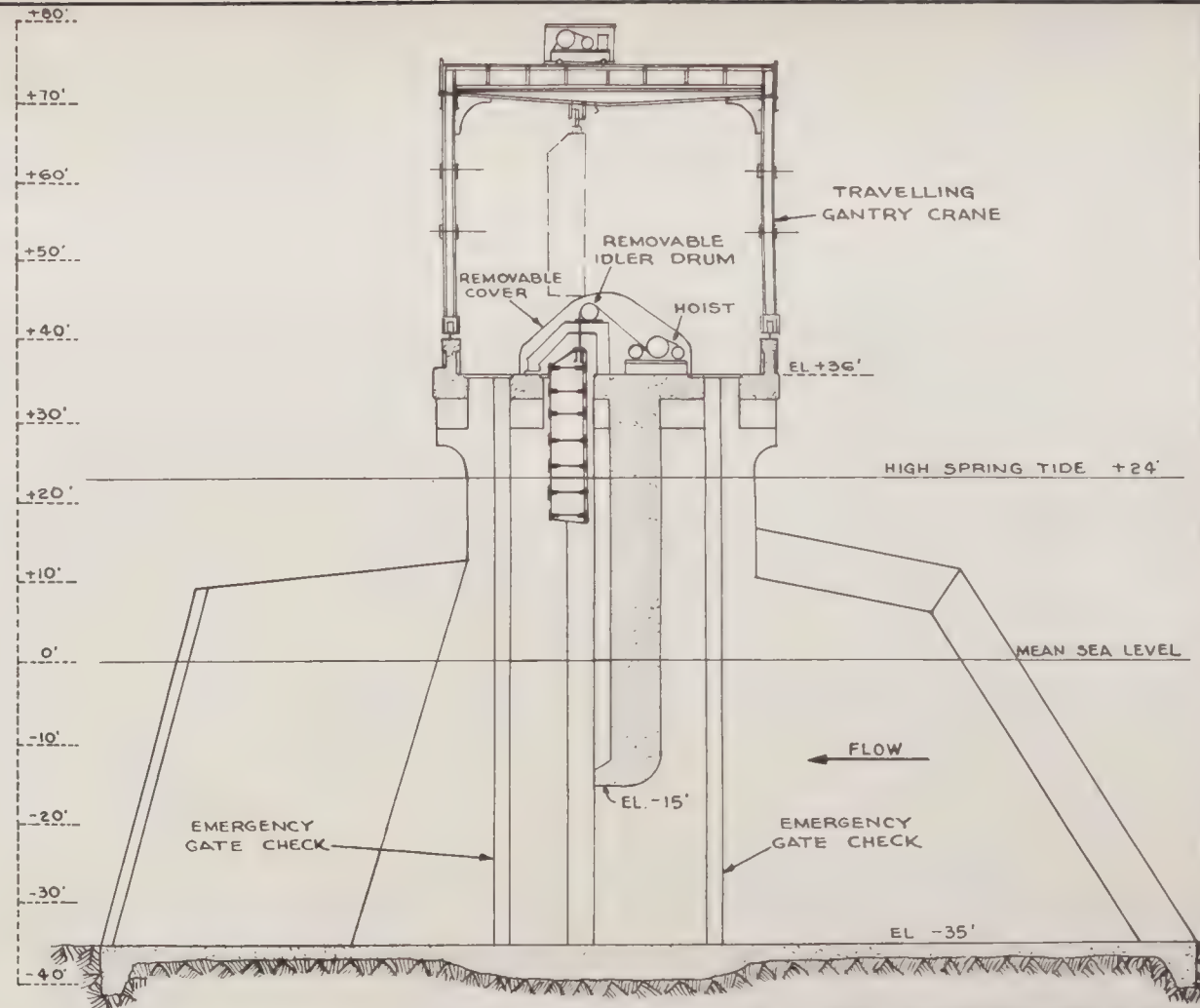
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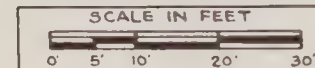
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INLET-CONTROL STRUCTURE TYPICAL PART-PLAN & CROSS SECTION	
APPROVED	DATE
<i>[Signature]</i>	SEPT. 29-1945
JOB NO 336	PLATE No - 15-



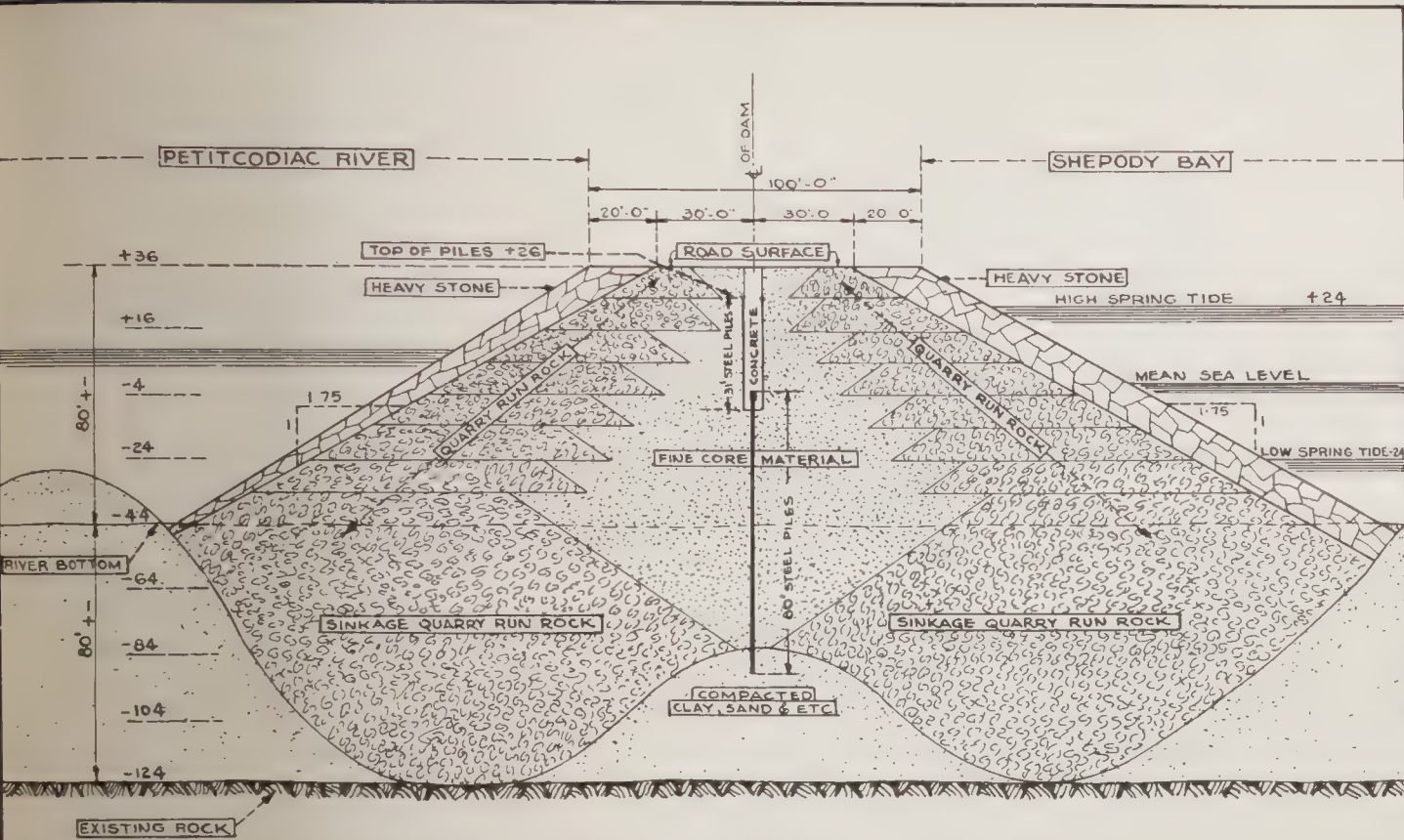
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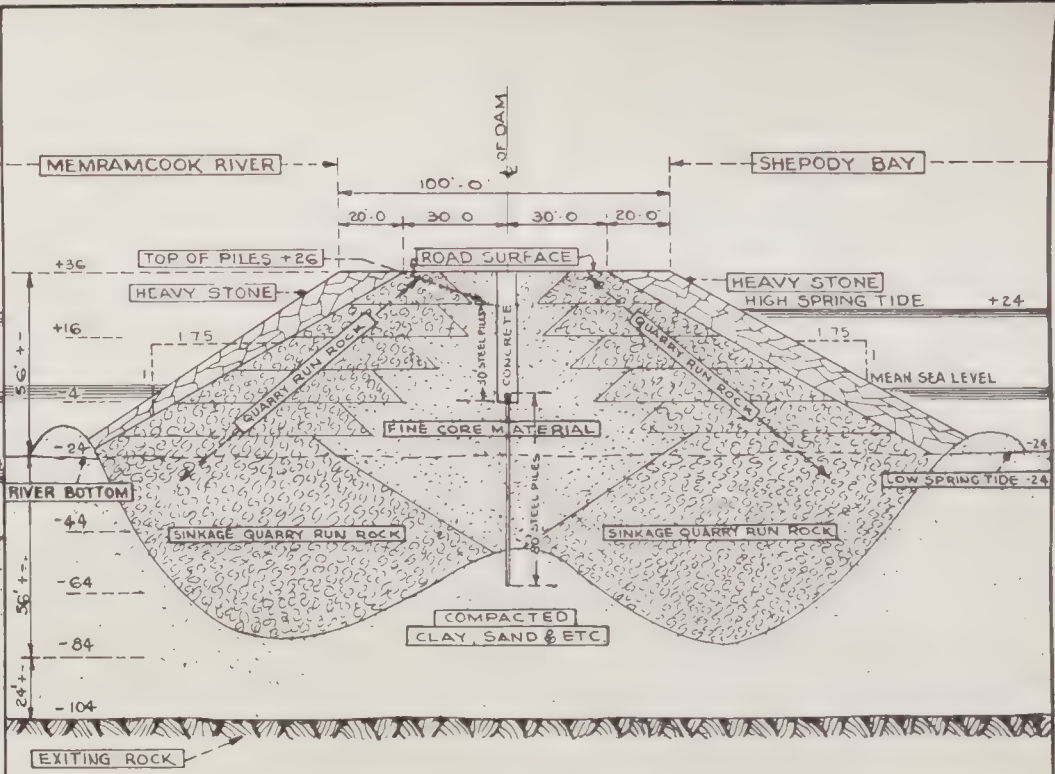
CROSS - SECTION



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OUTLET-CONTROL STRUCTURE TYPICAL PART-PLAN & CROSS SECTION	
APPROVED	DATE
<i>H. G. Acres</i>	SEPT. 29-1945
JOB N°336	PLATE N°-16-



TYPICAL CROSS SECTION OF ROCK FILL DAM
PETITCODIAC ESTUARY



TYPICAL CROSS SECTION OF ROCK FILL DAM
MEMRAMCOOK ESTUARY

SEQUENCE OF CONSTRUCTION OPERATIONS

OPERATIONS	No 1	PLACE QUARRY RUN ROCK AND HEAVY OUTSIDE STONE UP TO ELEVATION +16. PLACE FINE CORE MATERIAL UP TO MEAN SEA LEVEL EL. 0.0 EACH HORIZONTAL LAYER TO BE FROM 5'-0" MIN. TO 10'-0" MAX. IN HEIGHT.
	No 2	DRIVE 80 FT. LONG STEEL SHEET PILES FROM MEAN SEA LEVEL DOWN TO EL. -80.0 FOR PETITCODIAC DAM DRIVE 60 FT. LONG STEEL SHEET PILES FROM MEAN SEA LEVEL DOWN TO EL. -60.0 FOR MEMRAMCOOK DAM.
	No 3	COMPLETE ALL FILL TO EL. +26 (10'-0" BELOW CREST OF DAM).
	No 4	DRIVE TWO ROWS OF STEEL SHEET PILING 35'-0" LONG DOWN FROM EL +26.0 TO EL -5.0.
	No 5	EXCAVATE AND BRACE BETWEEN TWO TOP ROWS OF PILING DOWN TO EL -5.0.
	No 6	FILL SPACE BETWEEN TWO TOP ROWS OF PILING WITH CONCRETE.
	No 7	EXTEND CONCRETE CORE AND ALL FILL MATERIAL TO CREST OF DAM EL +36.0

NOTE
THE ELEVATIONS SHOWN
ARE BASED ON
GEODETIC DATUM

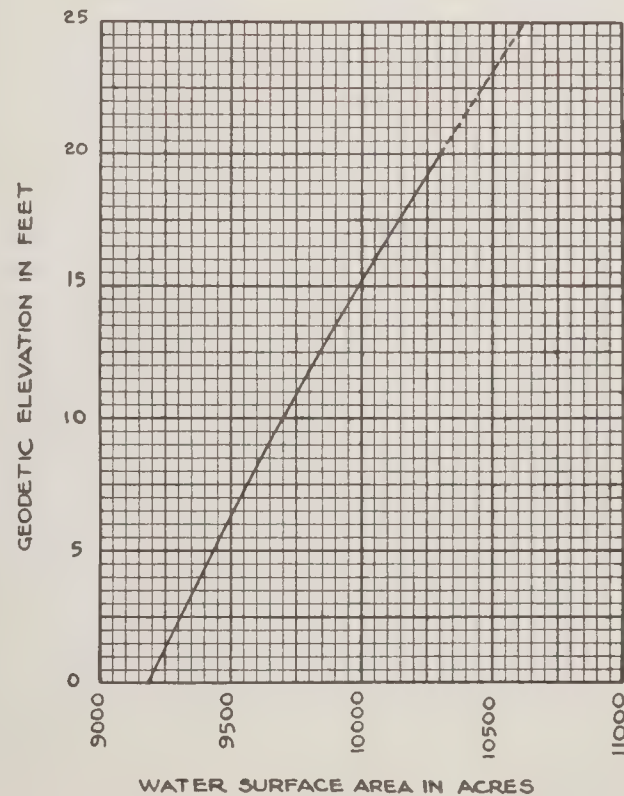
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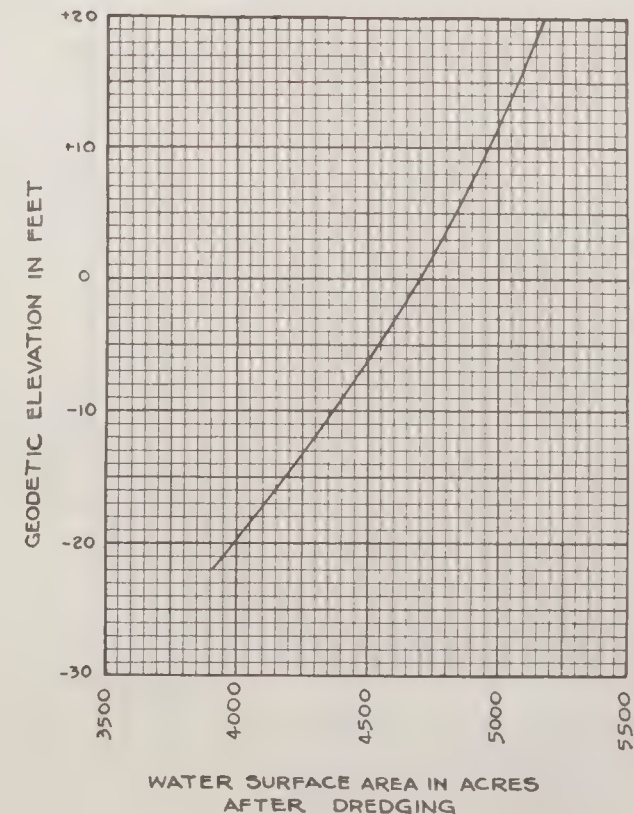
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PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

TYPICAL CROSS SECTIONS
OF
PROPOSED ROCK FILL DAMS

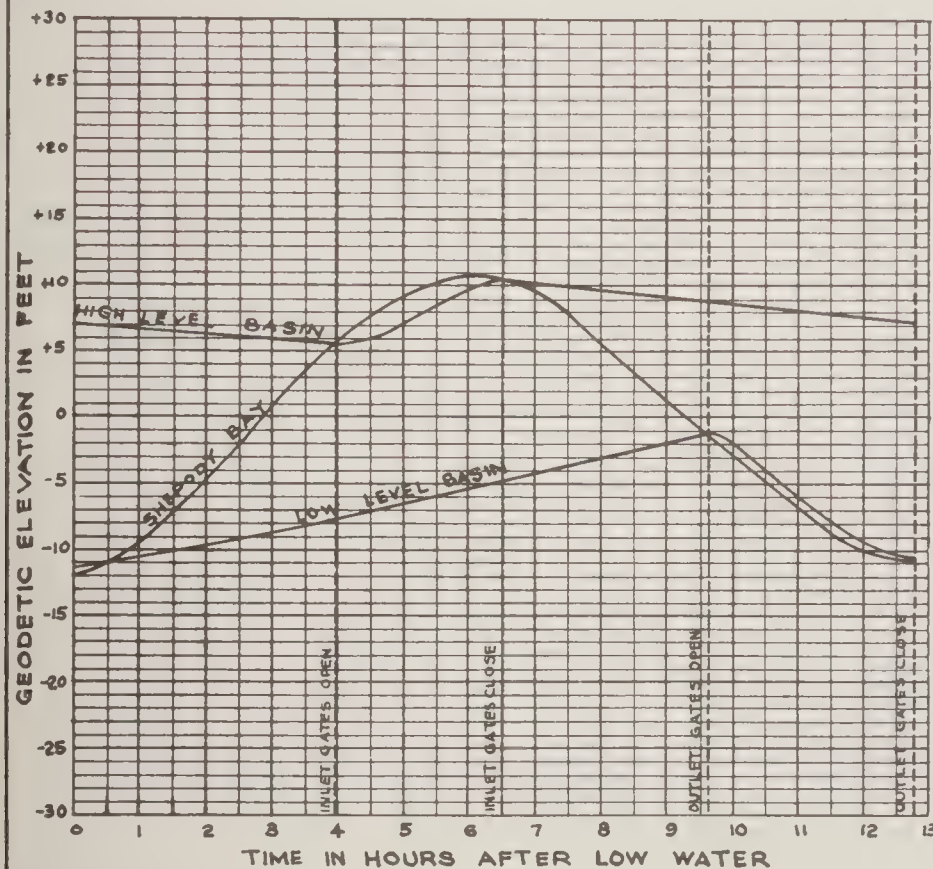
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REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
PETITCODIAC RIVER WATER SURFACE AREA		
APPROVED <i>[Signature]</i>	DATE SEPT. 29 - 1945	PLATE No - 18 -
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MEMRAMCOOK RIVER WATER SURFACE AREA AFTER DREDGING		
APPROVED <i>[Signature]</i>	DATE SEPT. 29 - 1945	PLATE No - 19 -
JOB No 336		



STUDY CONDITIONS

TIDAL RANGE - 22.07 FT.
TURBINE OUTPUT 83,000 CONSTANT
CONTINUOUS HORSEPOWER.

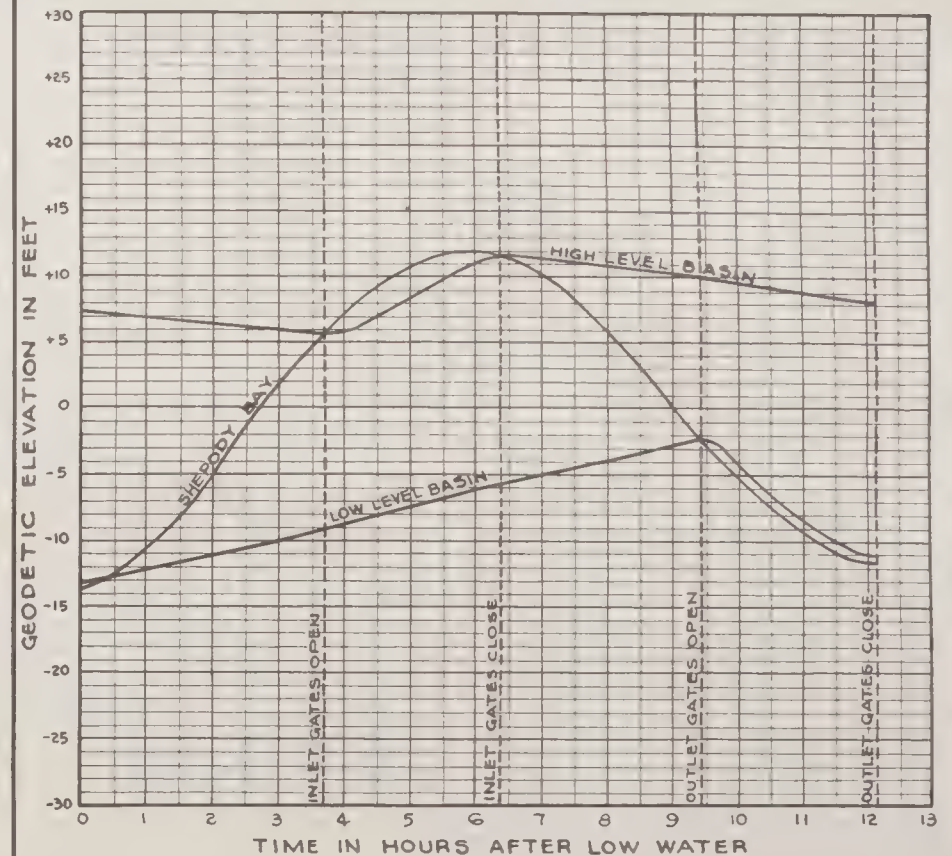
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REPORT ON TIDAL POWER
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PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED *H.G. Acres* DATE SEPT-29-1945 PLATE
JOB NO 336 NO-20



STUDY CONDITIONS

TIDAL RANGE - 25.0 FT.
TURBINE OUTPUT 106,000 CONSTANT
CONTINUOUS HORSEPOWER.

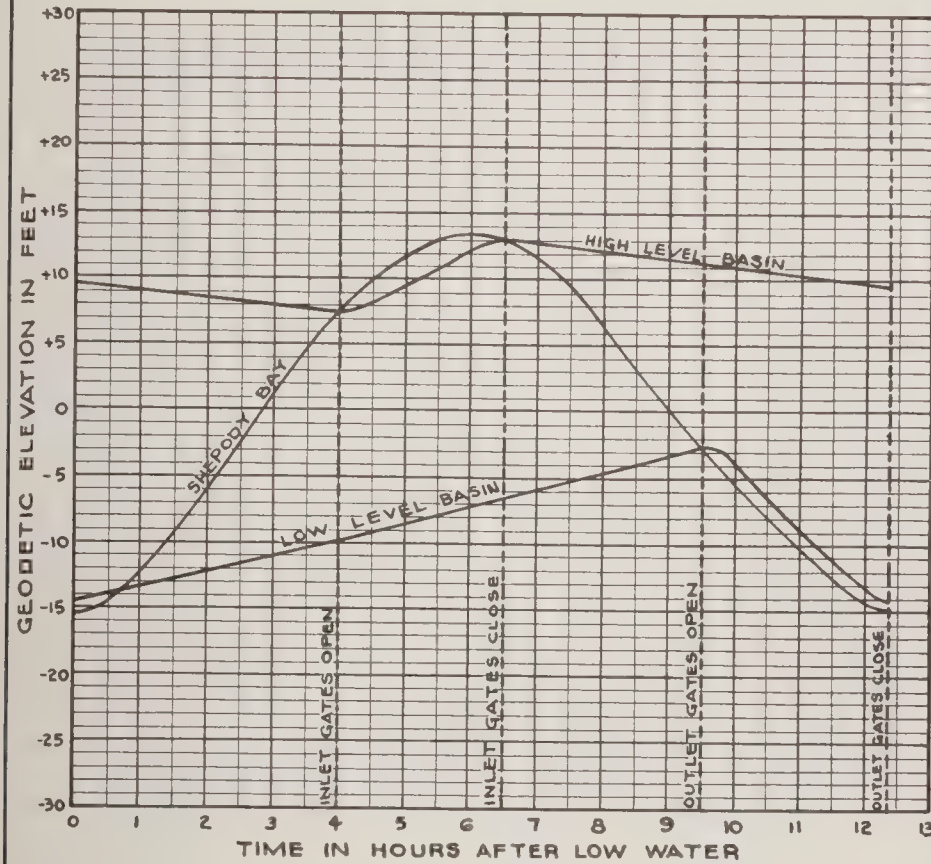
H.G. ACRES & COMPANY - CONSULTING ENGINEERS
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REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED *H.G. Acres* DATE SEPT-29-1945 PLATE
JOB NO 336 NO-21

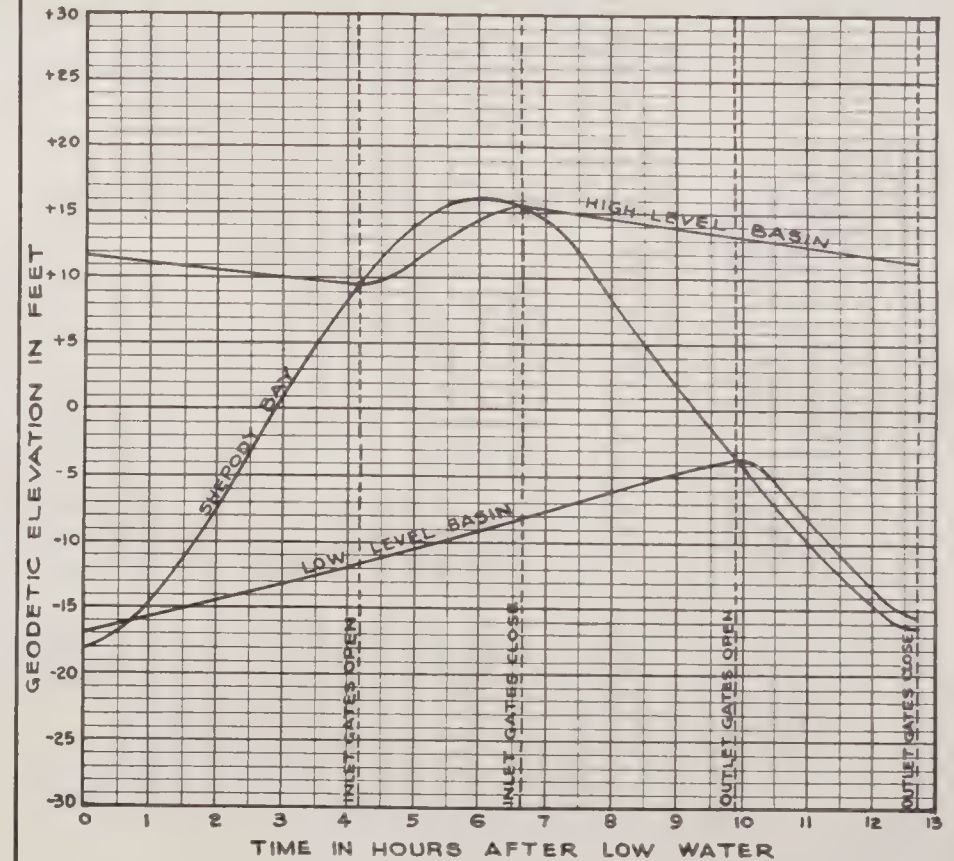


STUDY CONDITIONS
 TIDAL RANGE - 28.6 FT.
 TURBINE OUTPUT 130,000 CONSTANT
 CONTINUOUS HORSEPOWER.

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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE No - 22 -
<i>H. H. H.</i>	SEPT. 29 - 1945 JOB No 336	

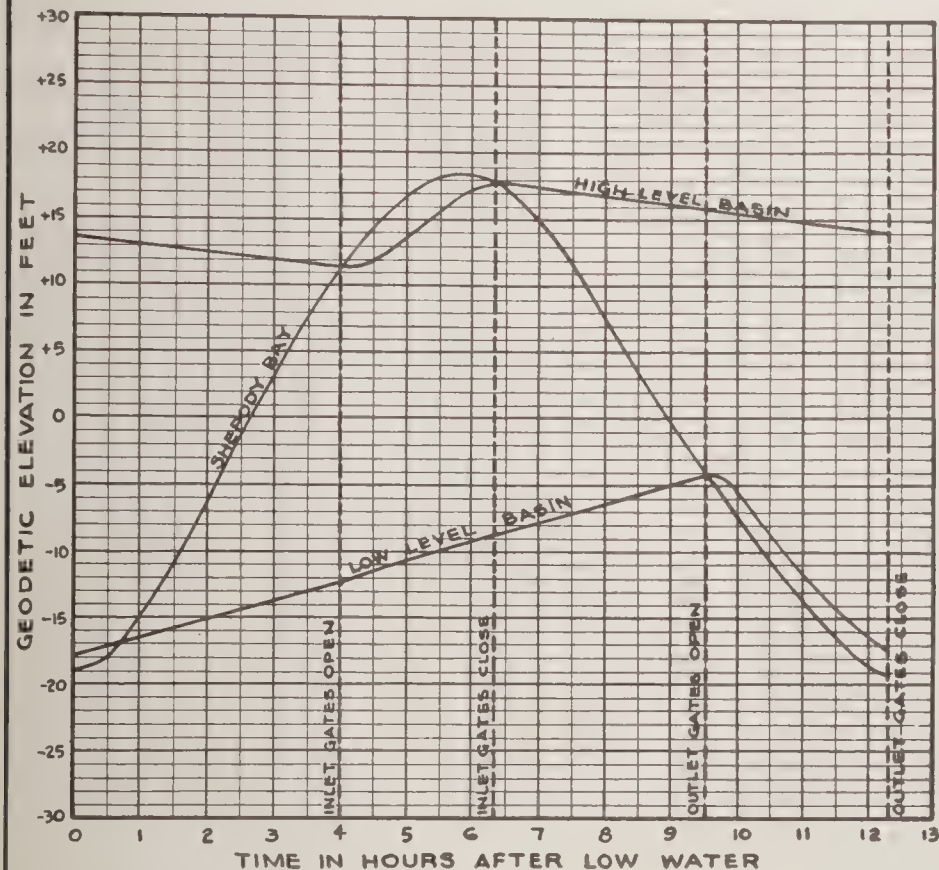


STUDY CONDITIONS
 TIDAL RANGE - 33.1 FT.
 TURBINE OUTPUT 168,000 CONSTANT
 CONTINUOUS HORSEPOWER.

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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE No - 23 -
<i>H. H. H.</i>	SEPT. 29 - 1945 JOB No 336	



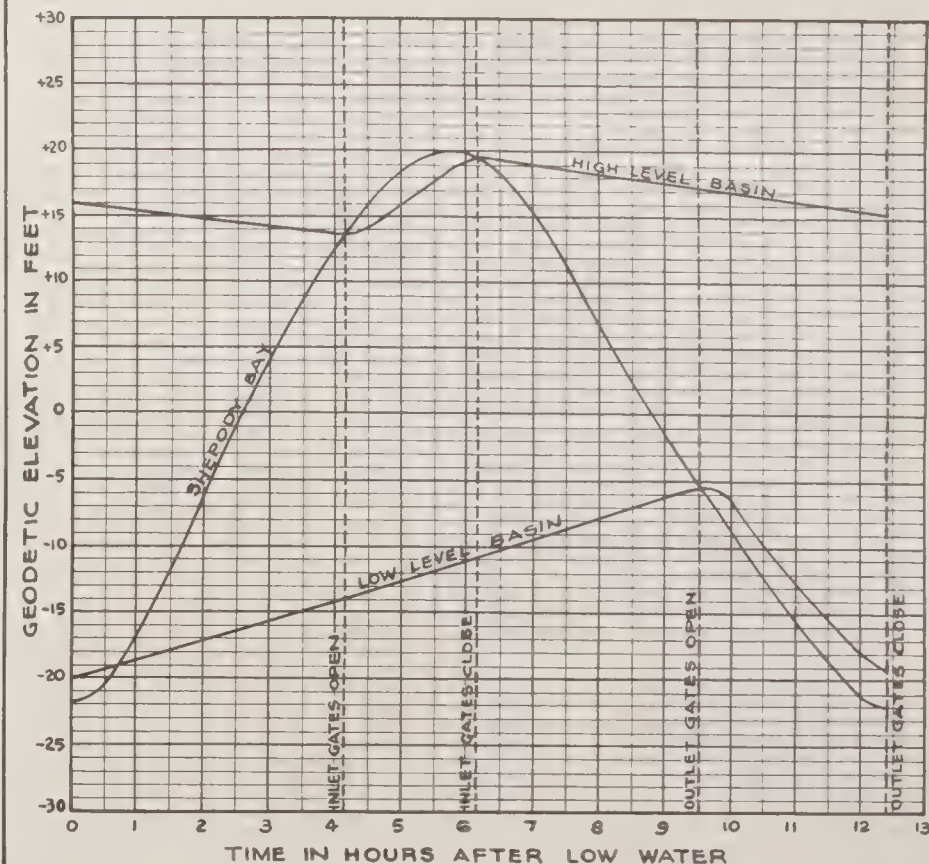
STUDY CONDITIONS
 TIDAL RANGE - 37.52 FT.
 TURBINE OUTPUT 200,000 CONSTANT
 CONTINUOUS HORSEPOWER.

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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE No - 24-
<i>H.G. Acres</i>	SEPT. 29 - 1945 JOB No 336	



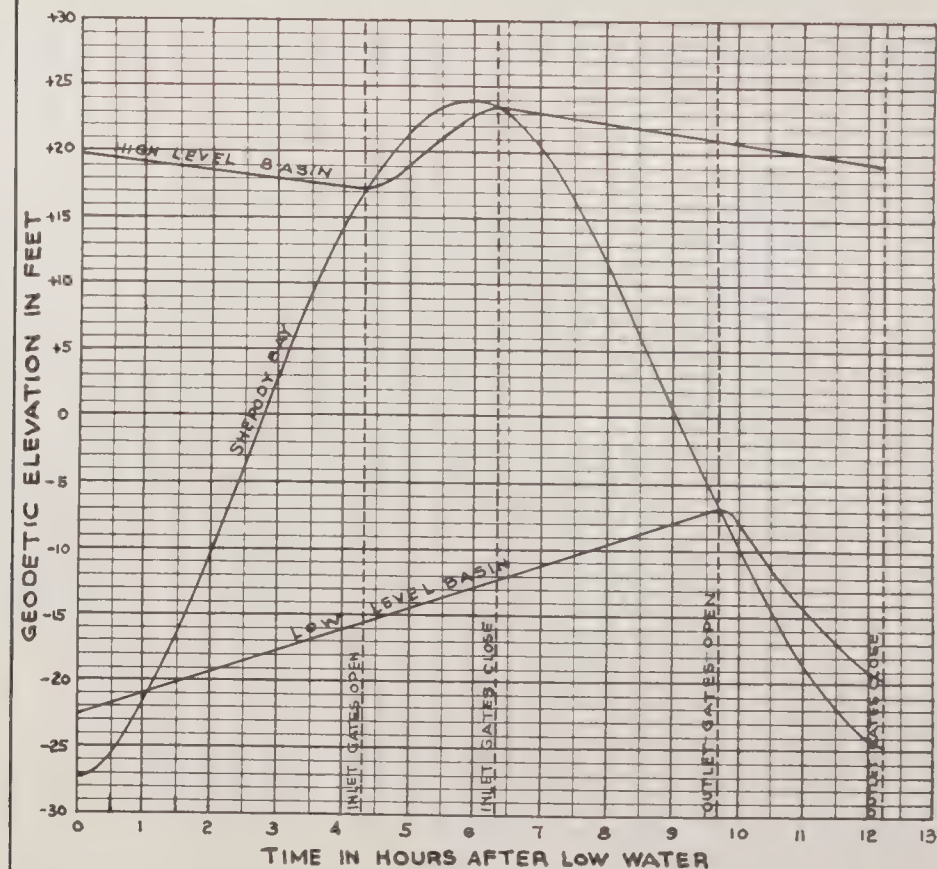
STUDY CONDITIONS
 TIDAL RANGE - 41.95 FT.
 TURBINE OUTPUT 232,000 CONSTANT
 CONTINUOUS HORSEPOWER

H.G. ACRES & COMPANY - CONSULTING ENGINEERS
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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE No - 25-
<i>H.G. Acres</i>	SEPT. 29 - 1945 JOB No 336	



STUDY CONDITIONS

TIDAL RANGE - 50.0 FEET
 TURBINE OUTPUT 280,500
 CONSTANT CONTINUOUS
 HORSEPOWER.

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 PROVINCE OF NEW BRUNSWICK

POWER STUDY
 MAXIMUM CONSTANT
 CONTINUOUS HORSEPOWER

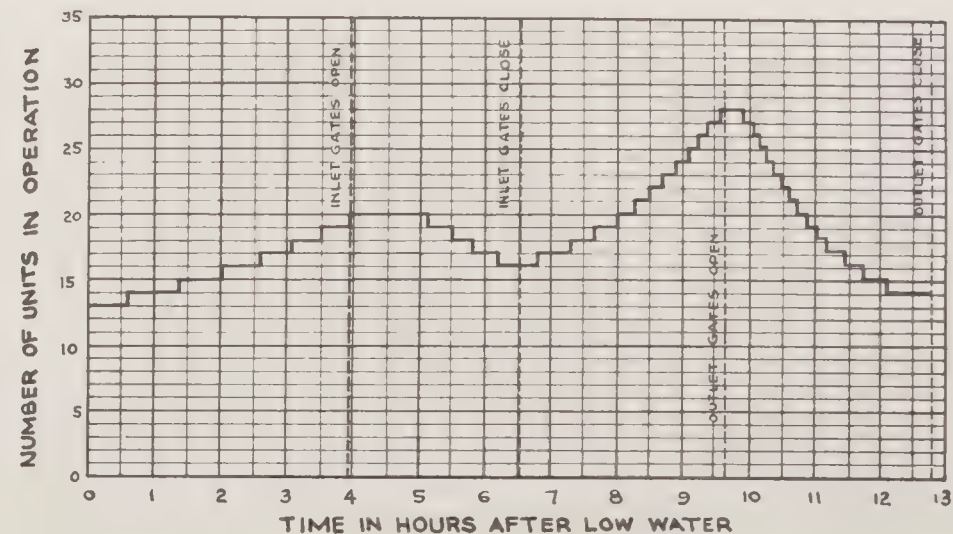
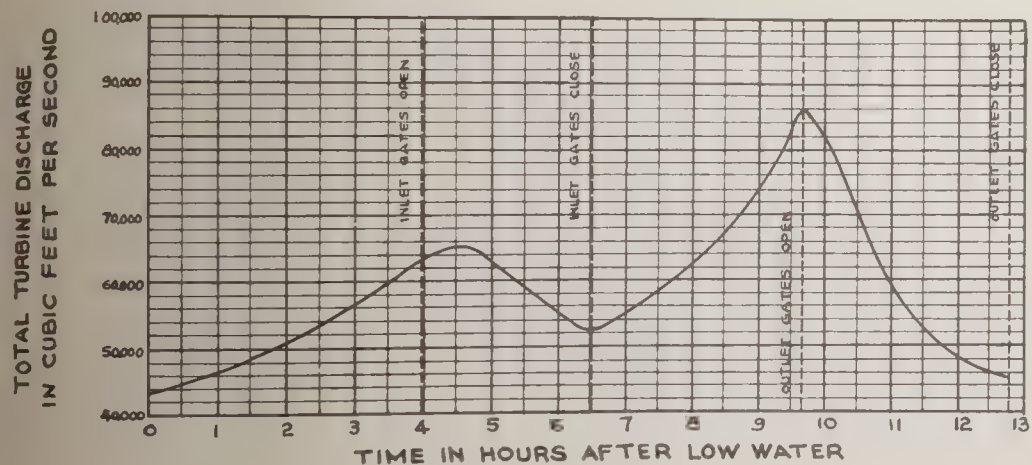
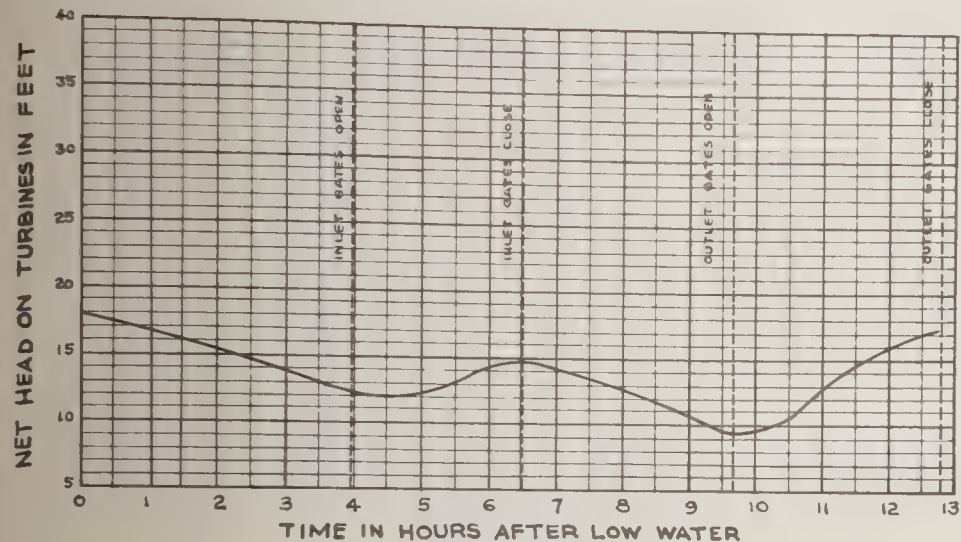
APPROVED DATE

SEPT-29-1945

PLATE

NO-26-

JOB NO 336



STUDY CONDITIONS

TIDAL RANGE - 22.07 FT.
TURBINE OUTPUT 83,000 CONSTANT
CONTINUOUS HORSEPOWER.

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PROVINCE OF NEW BRUNSWICK

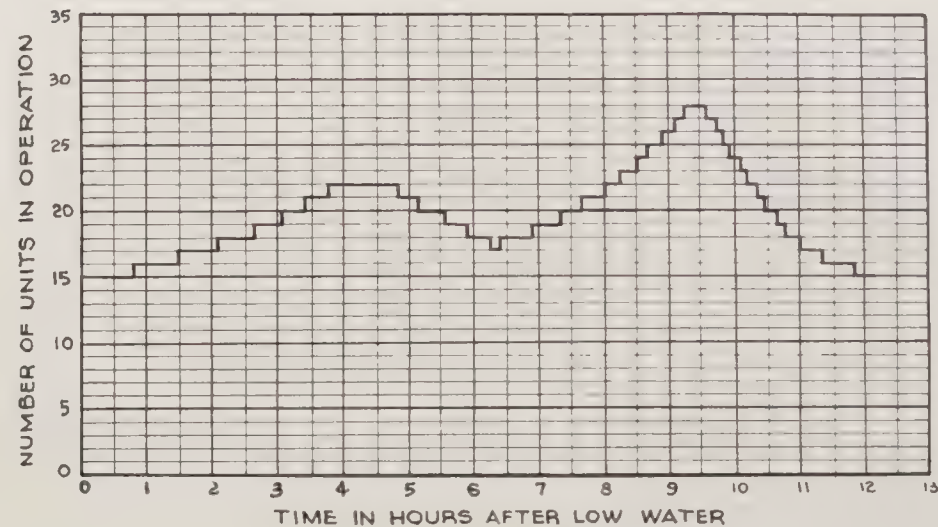
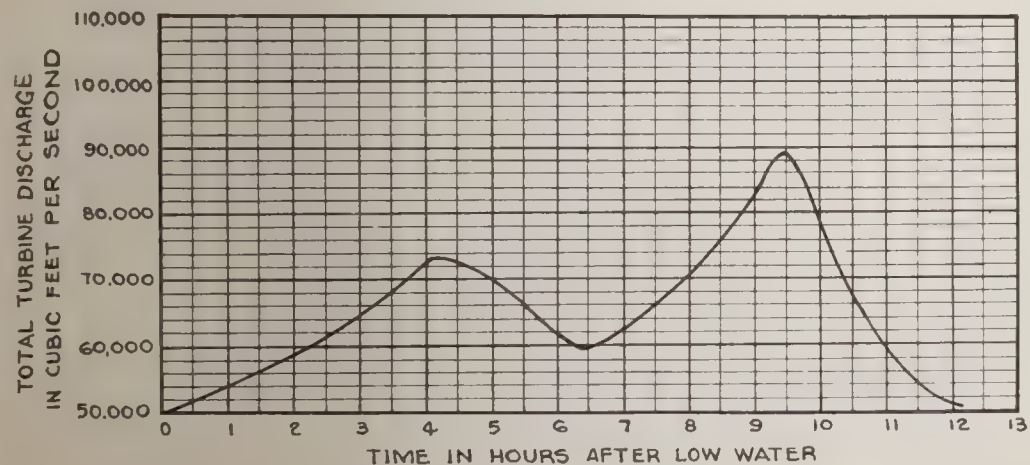
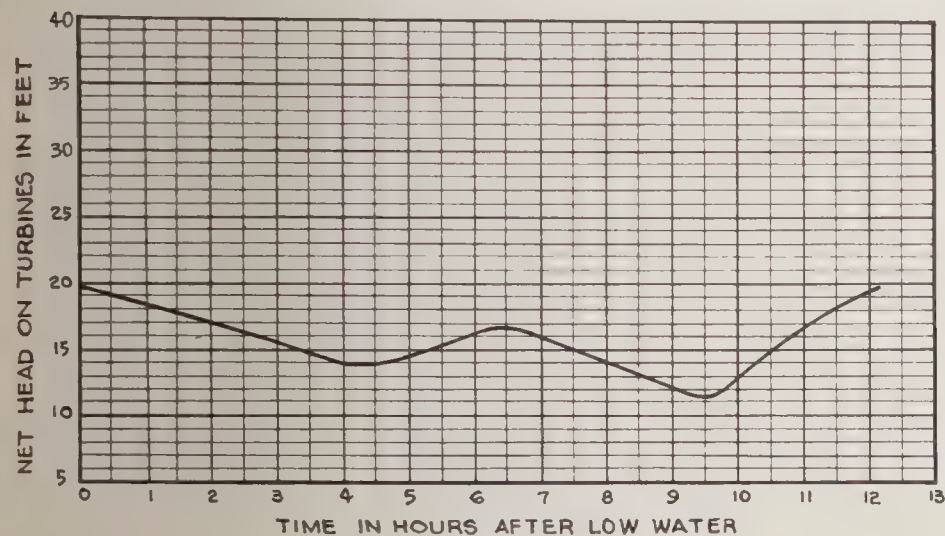
POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED DATE

SEPT. 29 - 1945

JOB NO 336

PLATE
NO - 27 -



STUDY CONDITIONS

TIDAL RANGE - 25 FEET
 TURBINE OUTPUT 106,000 CONSTANT
 CONTINUOUS HORSEPOWER

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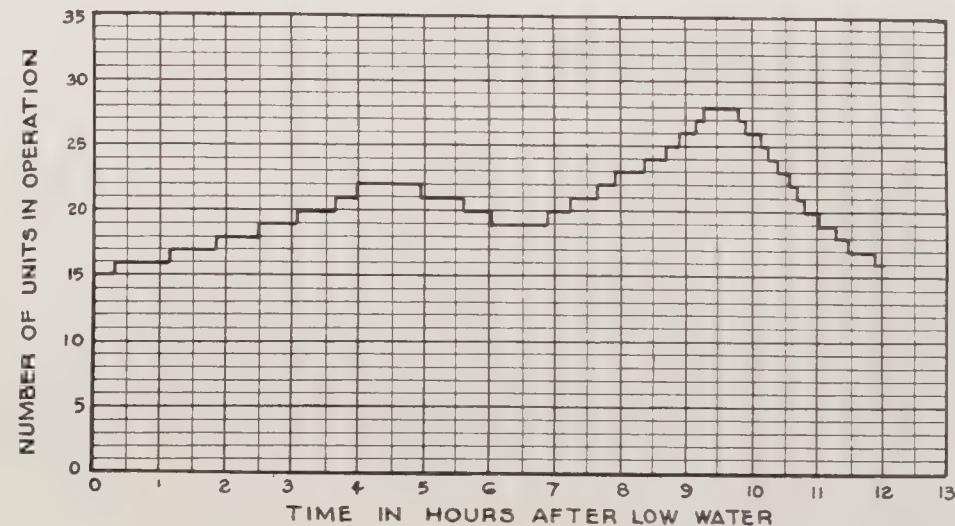
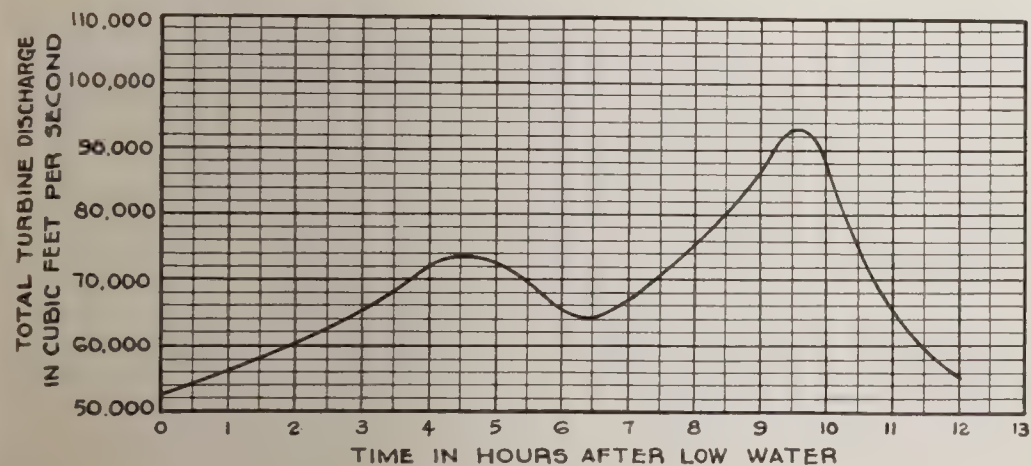
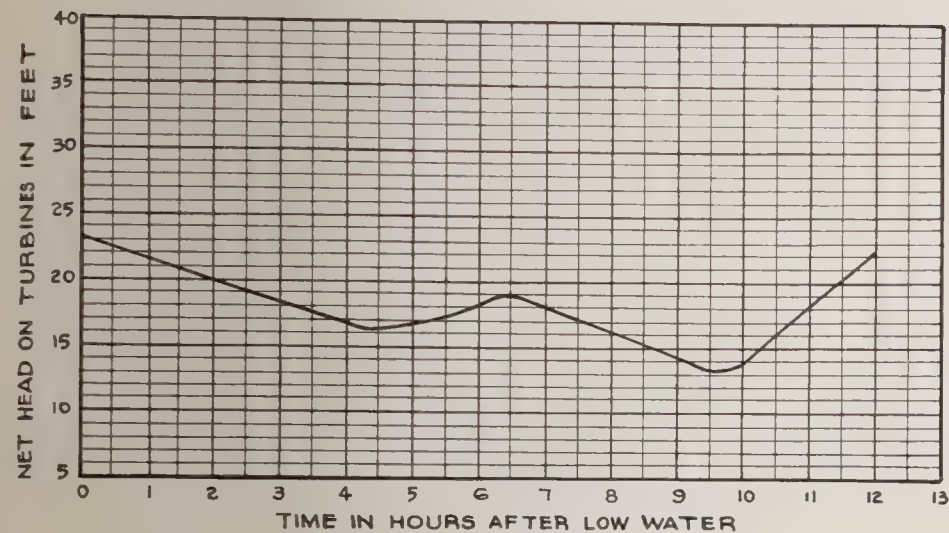
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POWER STUDY
 MAXIMUM CONSTANT
 CONTINUOUS HORSEPOWER

APPROVED *H.G. Acres* DATE
 SEPT-29-1945
 JOB NO 336

PLATE
 NO-28-



STUDY CONDITIONS

TIDAL RANGE - 28.6 FT.
TURBINE OUTPUT 130,000 CONSTANT
CONTINUOUS HORSEPOWER.

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PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

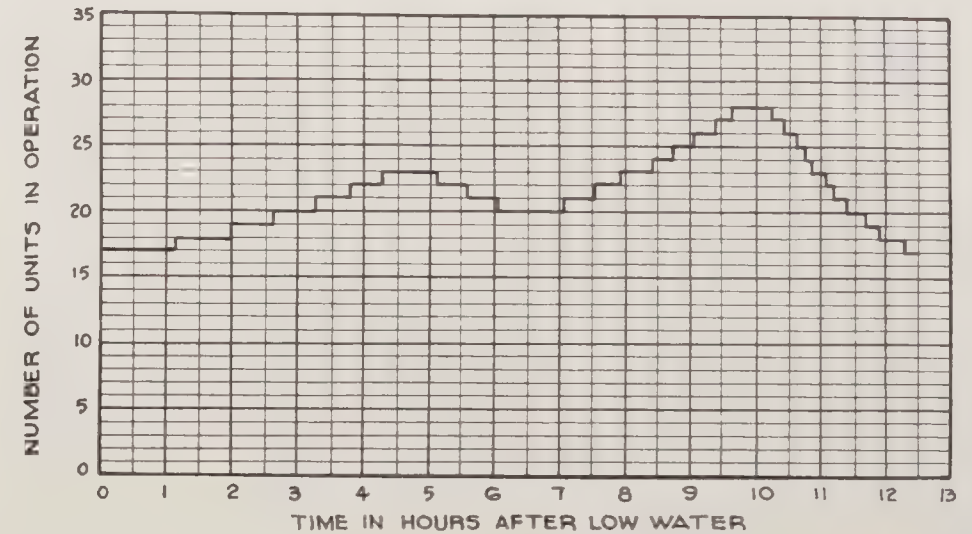
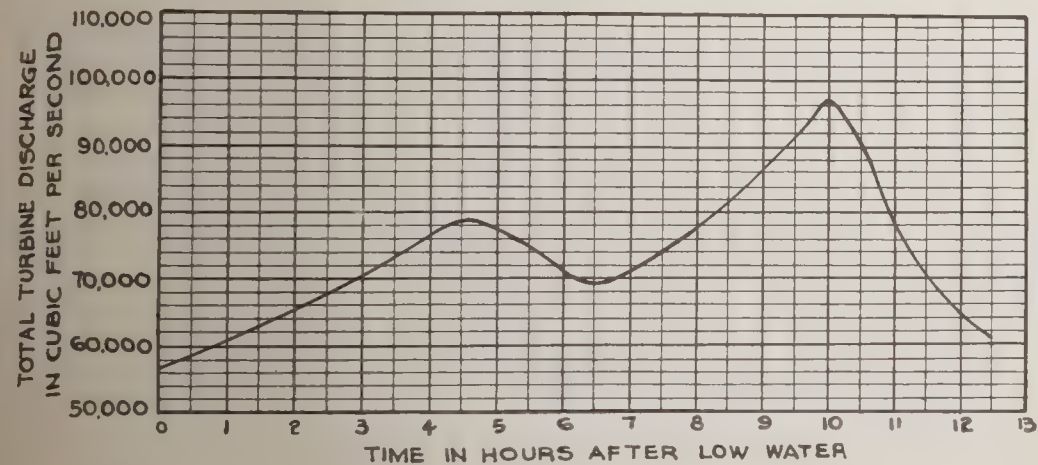
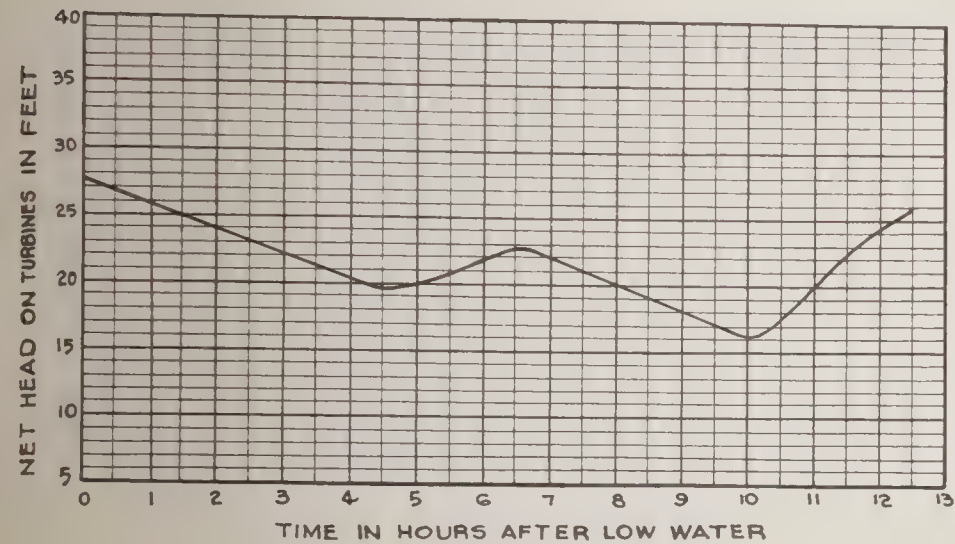
APPROVED DATE

SEPT-29-1945

PLATE

JOB NO 336

NO-29-



STUDY CONDITIONS

TIDAL RANGE - 33.1 FT.
TURBINE OUTPUT 168,000 CONSTANT
CONTINUOUS HORSEPOWER

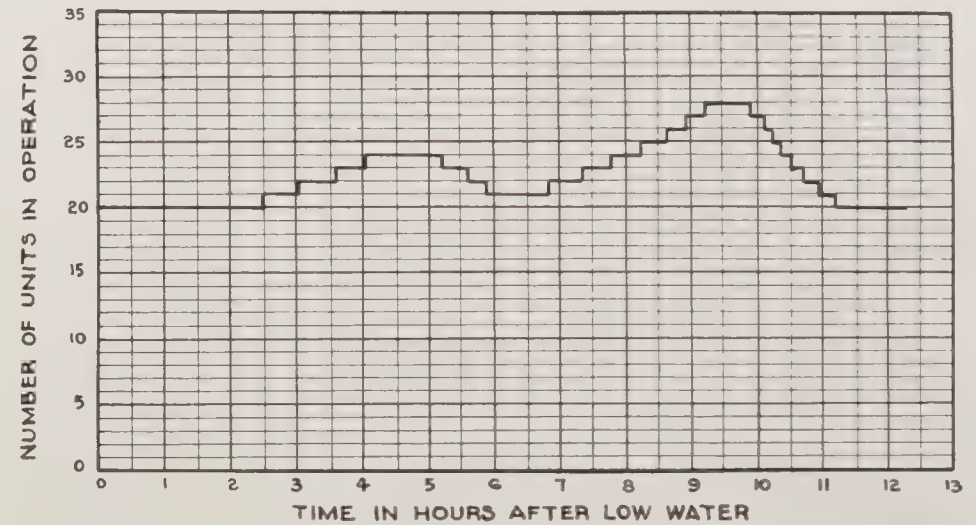
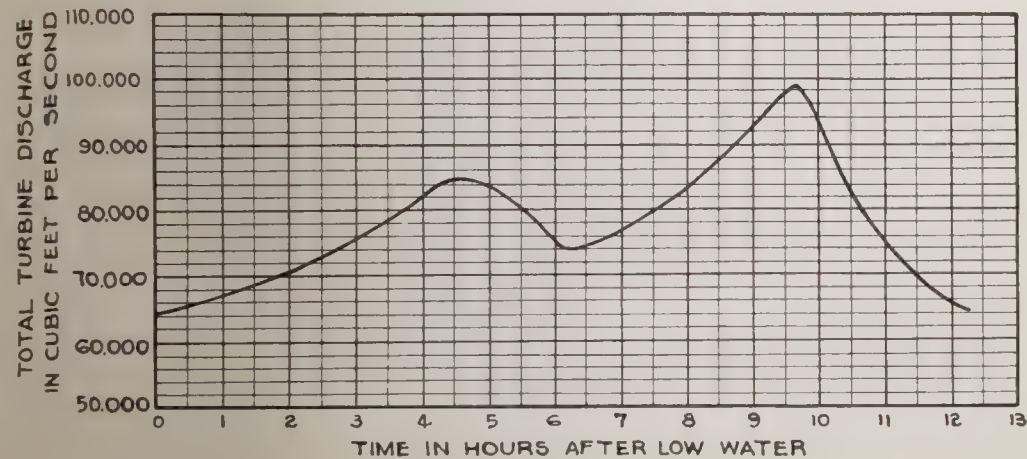
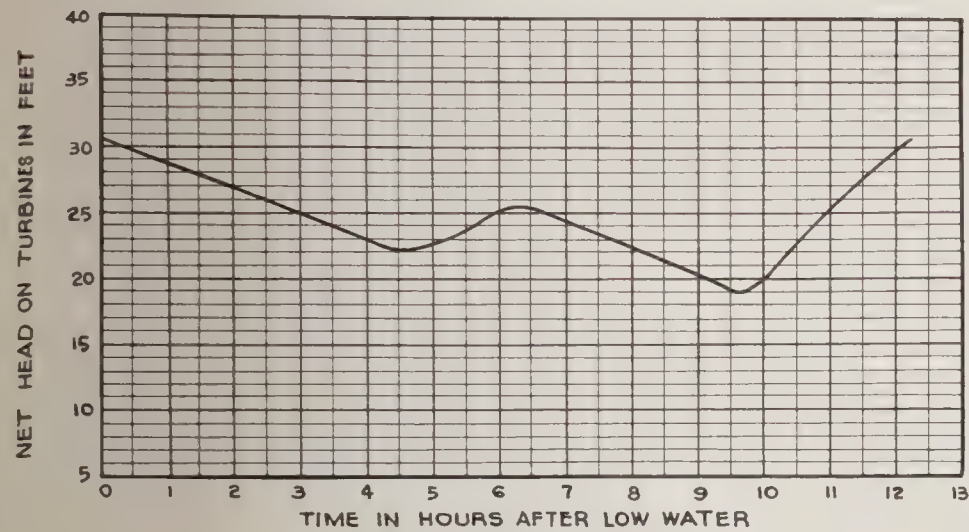
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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE NO-30-
<i>H. G. Acres</i>	SEPT-29-1945	
JOB NO 336		



STUDY CONDITIONS

TIDAL RANGE - 37.52 FT.
TURBINE OUTPUT 200,000 CONSTANT
CONTINUOUS HORSEPOWER.

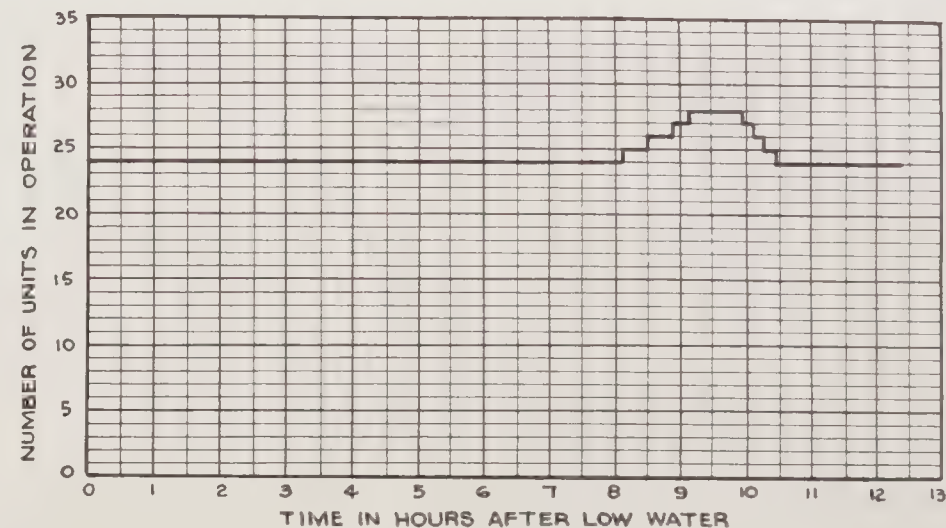
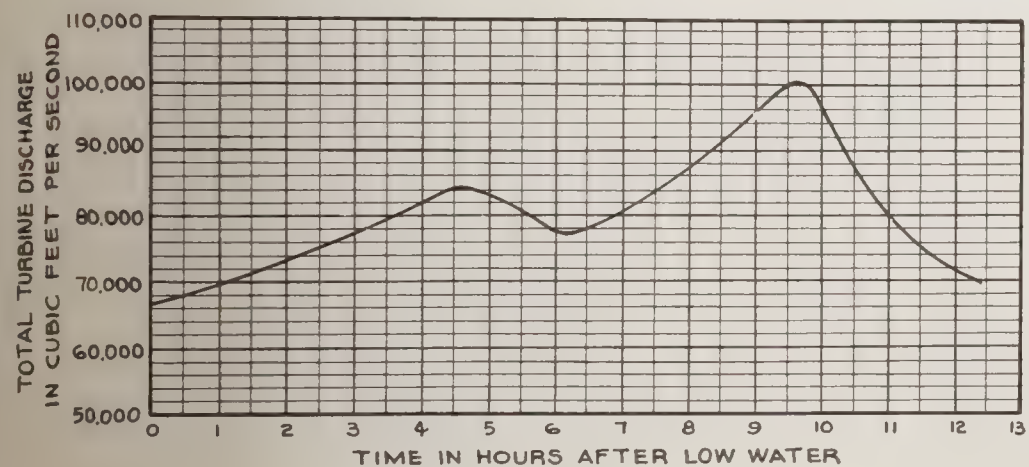
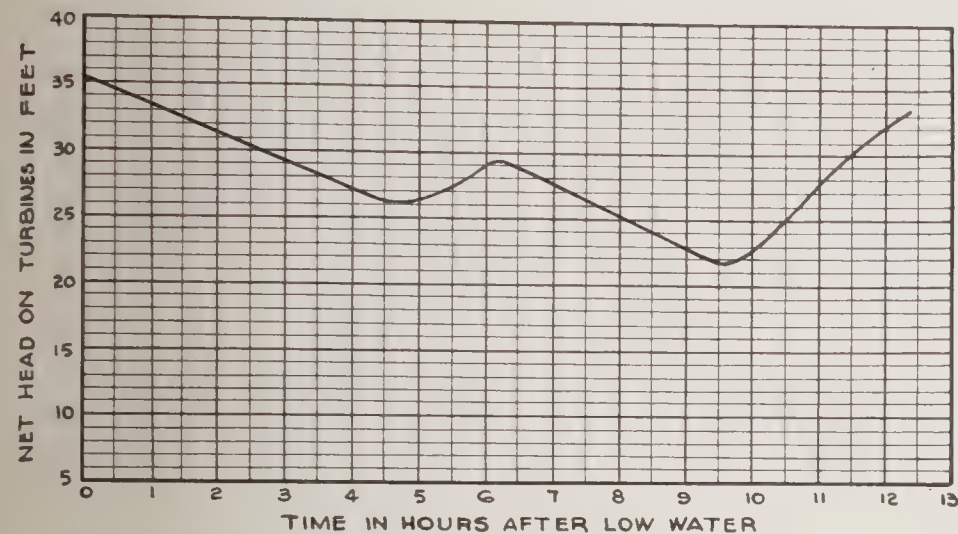
HG ACRES & COMPANY - CONSULTING ENGINEERS
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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE NO-31-
<i>[Signature]</i>	SEPT. 29 - 1945 JOB NO 336	



STUDY CONDITIONS

TIDAL RANGE - 41.95 FT.
TURBINE OUTPUT 232,000 CONSTANT
CONTINUOUS HORSEPOWER.

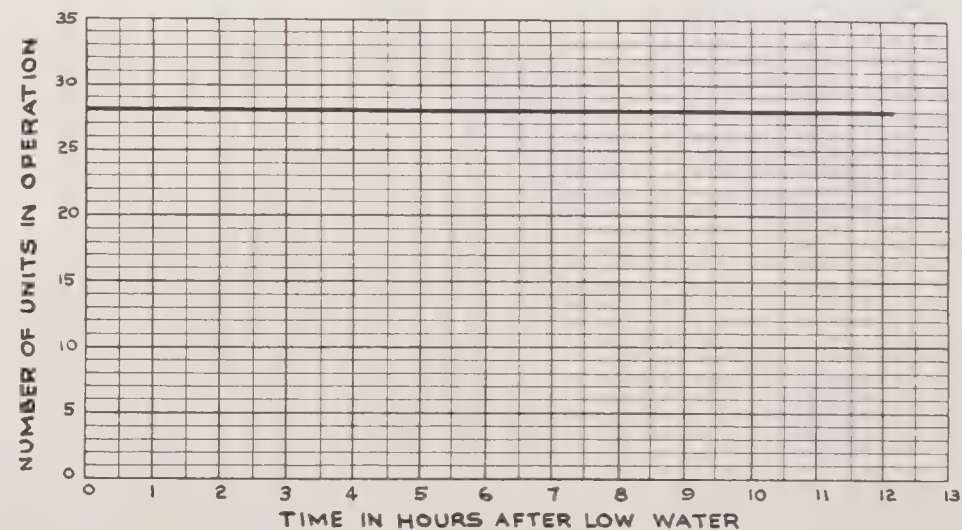
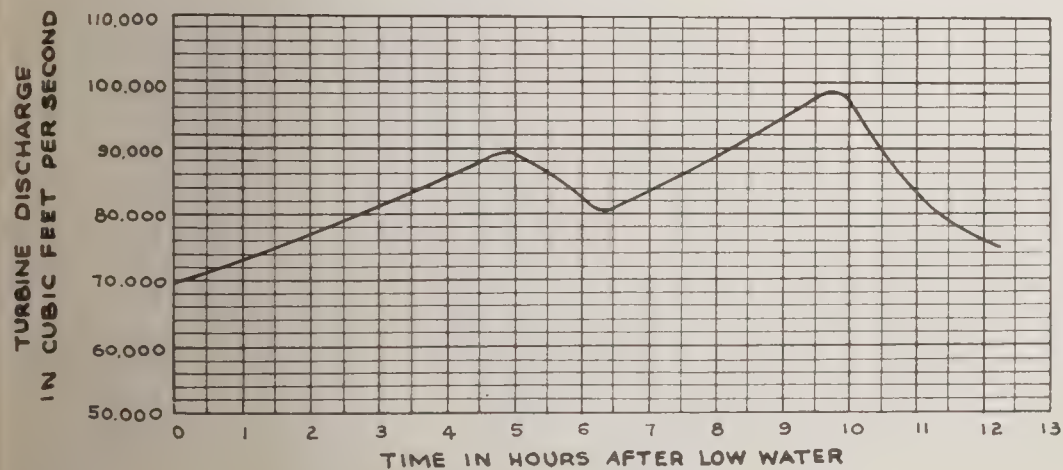
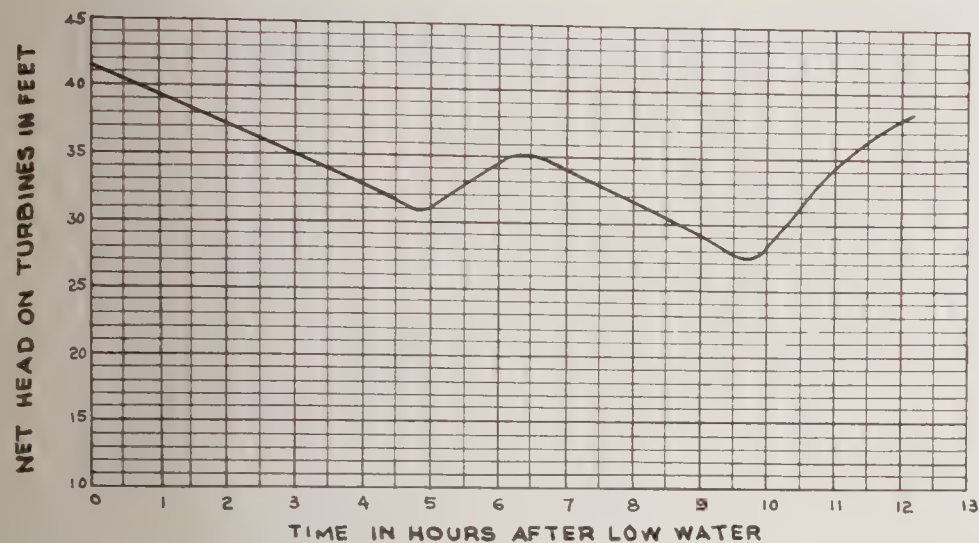
HG ACRES & COMPANY - CONSULTING ENGINEERS
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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE NO-32-
<i>H. H. Hume</i>	SEPT-29-1945	
JOB NO 336		



STUDY CONDITIONS
 TIDAL RANGE - 50.0 FEET
 TURBINE OUTPUT 280,500 CONSTANT
 CONTINUOUS HORSEPOWER

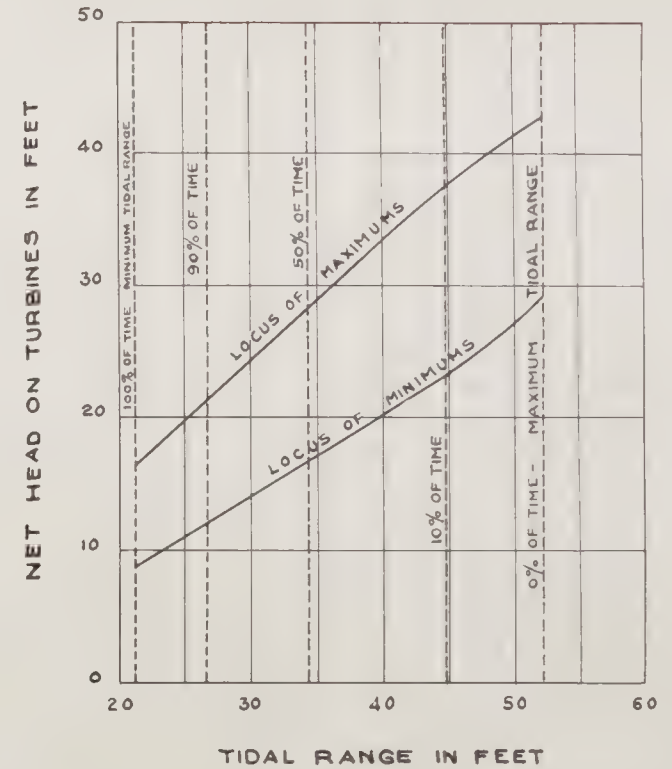
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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE NO-33-
<i>H. H. Acres</i>	SEPT. 29-1945 JOB NO 336	



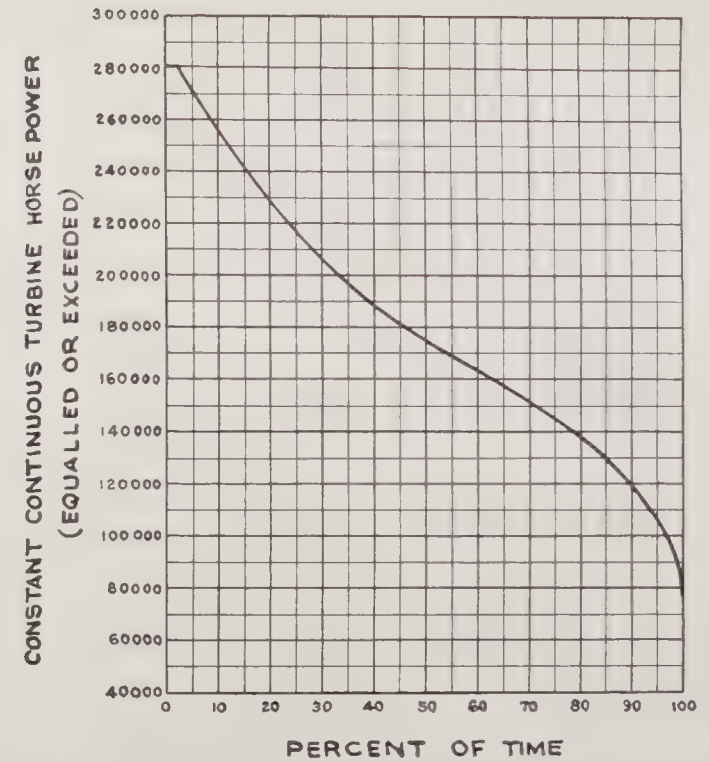
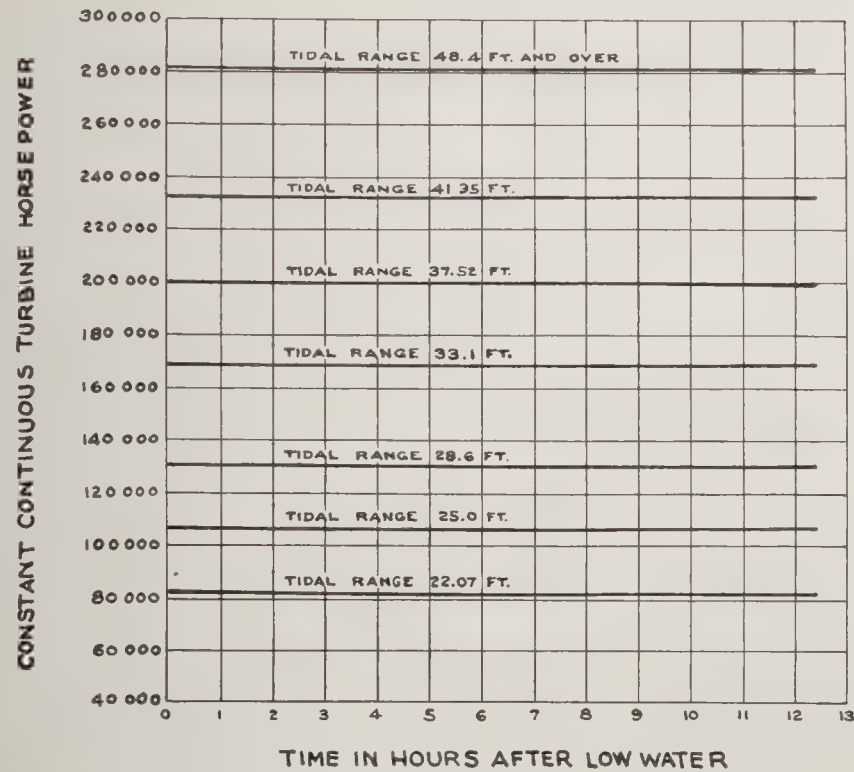
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MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE N2-34-
<i>H. G. Acres</i>	SEPT: 29-1945 JOB N ^o 336	



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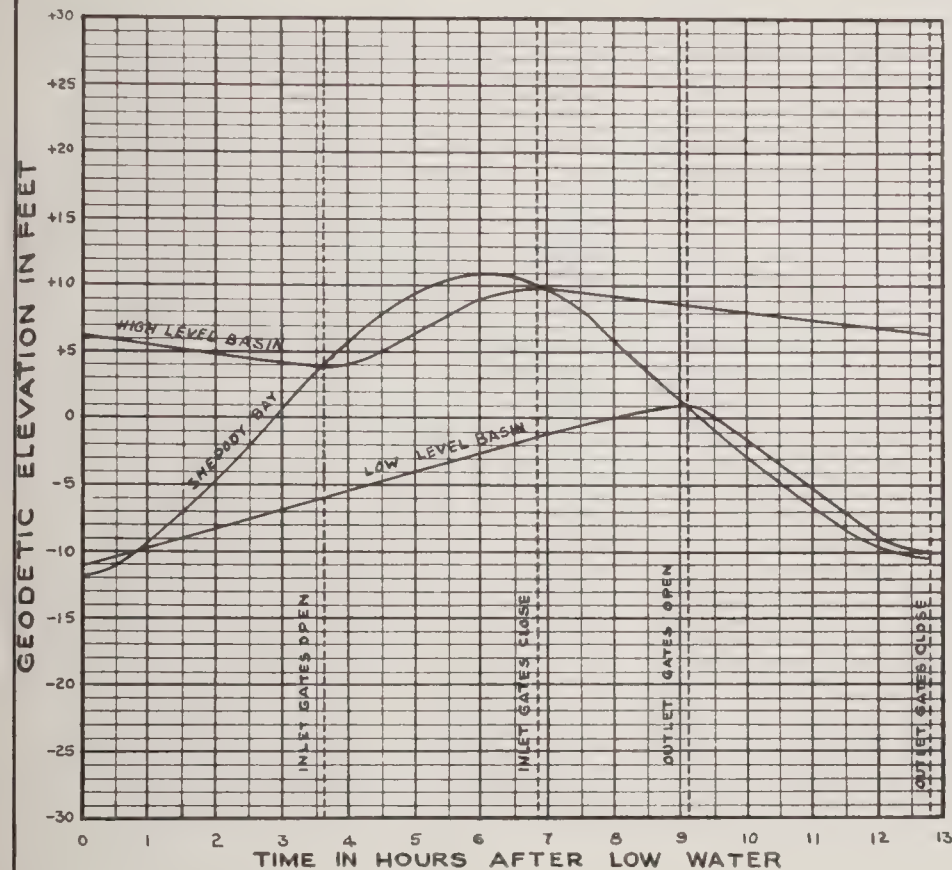
DEPARTMENT OF MINES AND RESOURCES - CANADA
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POWER STUDY
MAXIMUM CONSTANT
CONTINUOUS HORSEPOWER

APPROVED	DATE	PLATE No -35-
<i>H. G. Acres</i>	SEPT. 29-1945	

JOB NO 336



STUDY CONDITIONS
 TIDAL RANGE - 22.07 FT.
 25 UNITS OPERATING
 CONTINUOUSLY AT MAXIMUM
 EFFECIENCY.

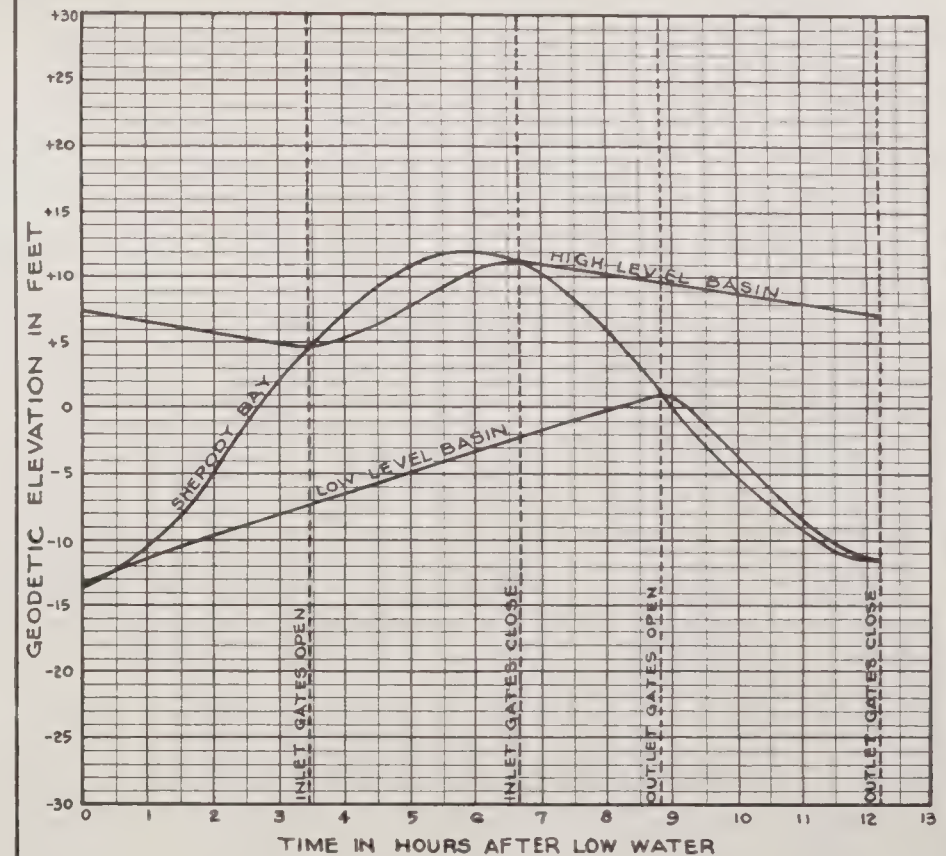
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POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No -36-
<i>H. G. Acres</i>	SEP-29-1945 JOB No 336	



STUDY CONDITIONS
 TIDAL RANGE 25 FEET
 27 UNITS OPERATING
 CONTINUOUSLY AT MAXIMUM
 EFFICIENCY.

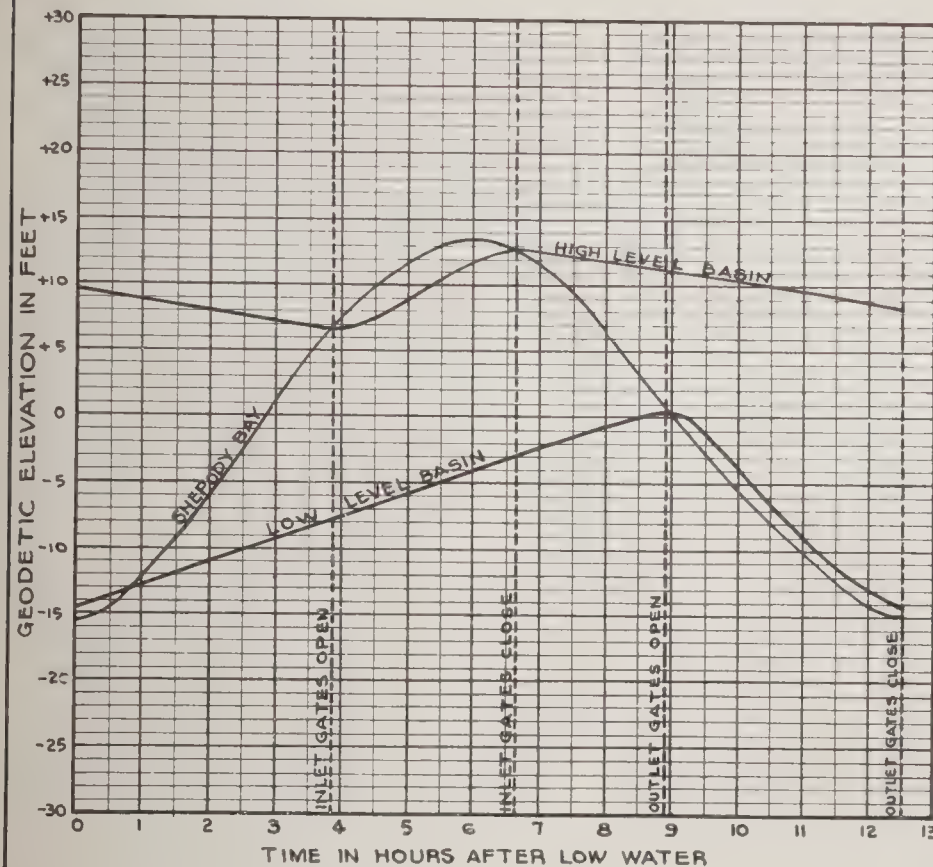
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MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No -37-
<i>H. G. Acres</i>	SEPT-29-1945 JOB No 336	



STUDY CONDITIONS

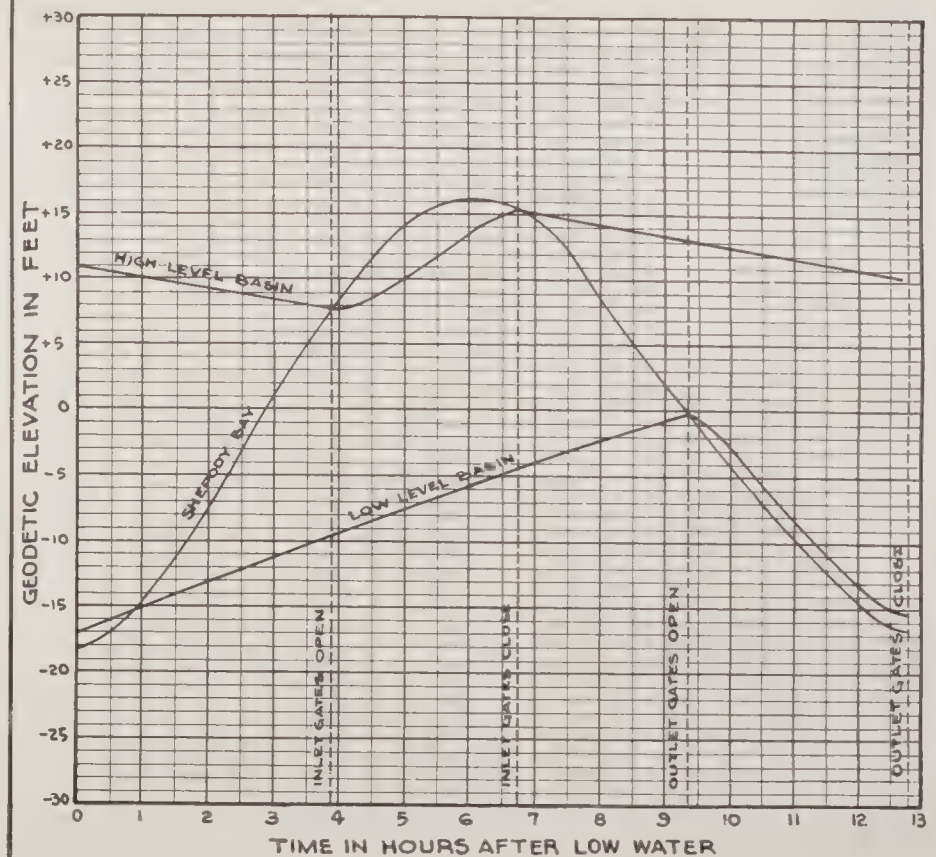
TIDAL RANGE 28.6 FEET
28 UNITS OPERATING
CONTINUOUSLY AT MAXIMUM
EFFICIENCY.

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MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No -38-
<i>H.G. Acres</i>	SEPT: 29-1945 JOB No 336	



STUDY CONDITIONS

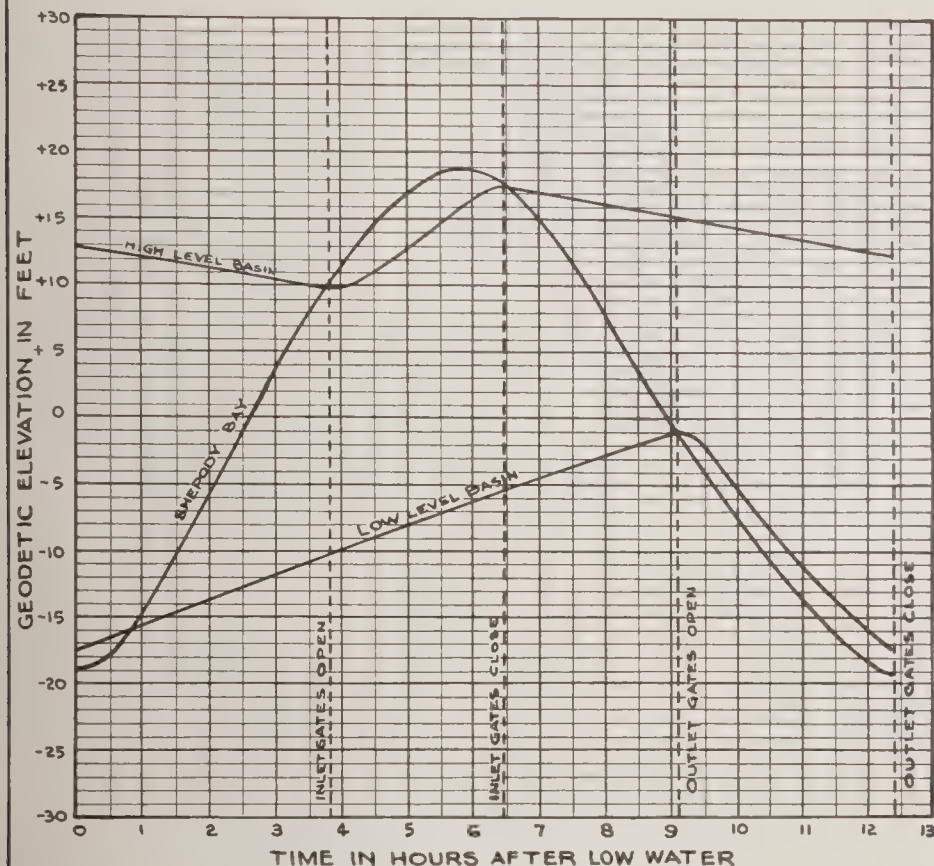
TIDAL RANGE 33.1 FEET
28 UNITS OPERATING
CONTINUOUSLY AT MAXIMUM
EFFICIENCY.

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MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No -39-
<i>H.G. Acres</i>	SEPT: 29-1945 JOB No 336	

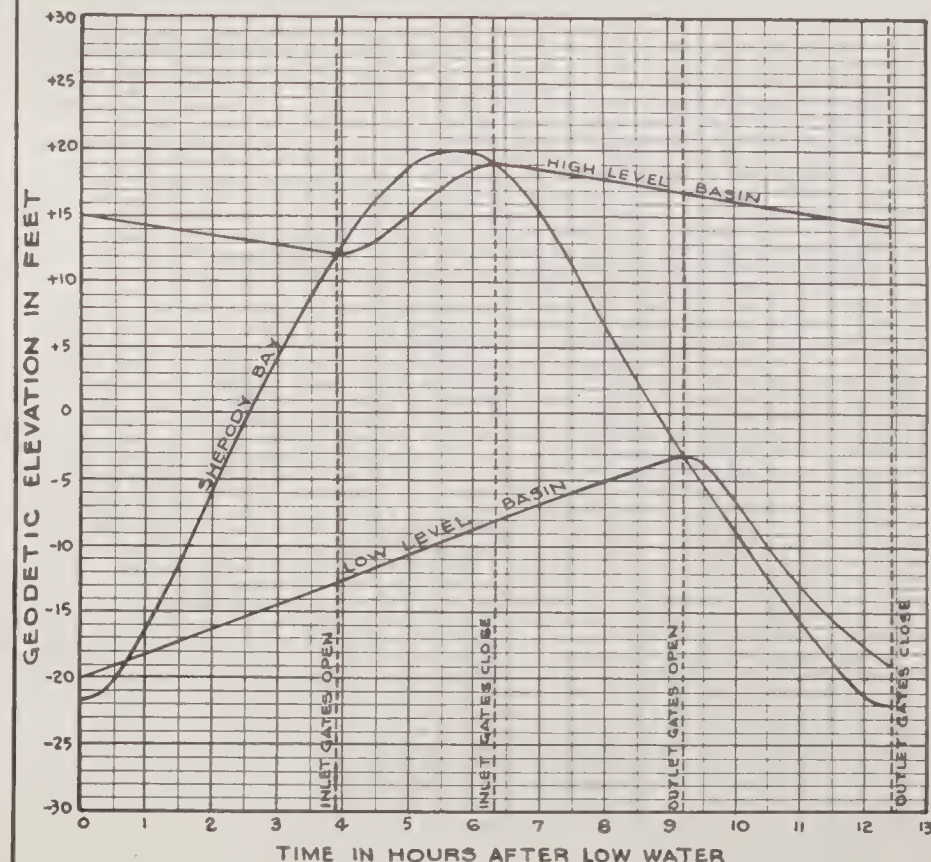


STUDY CONDITIONS
 TIDAL RANGE 37.52 FEET
 28 UNITS OPERATING
 CONTINUOUSLY AT MAXIMUM
 EFFICIENCY.

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POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No - 40 -
<i>H.G. Acres</i>	SEPT: 29 - 1945 JOB No 336	

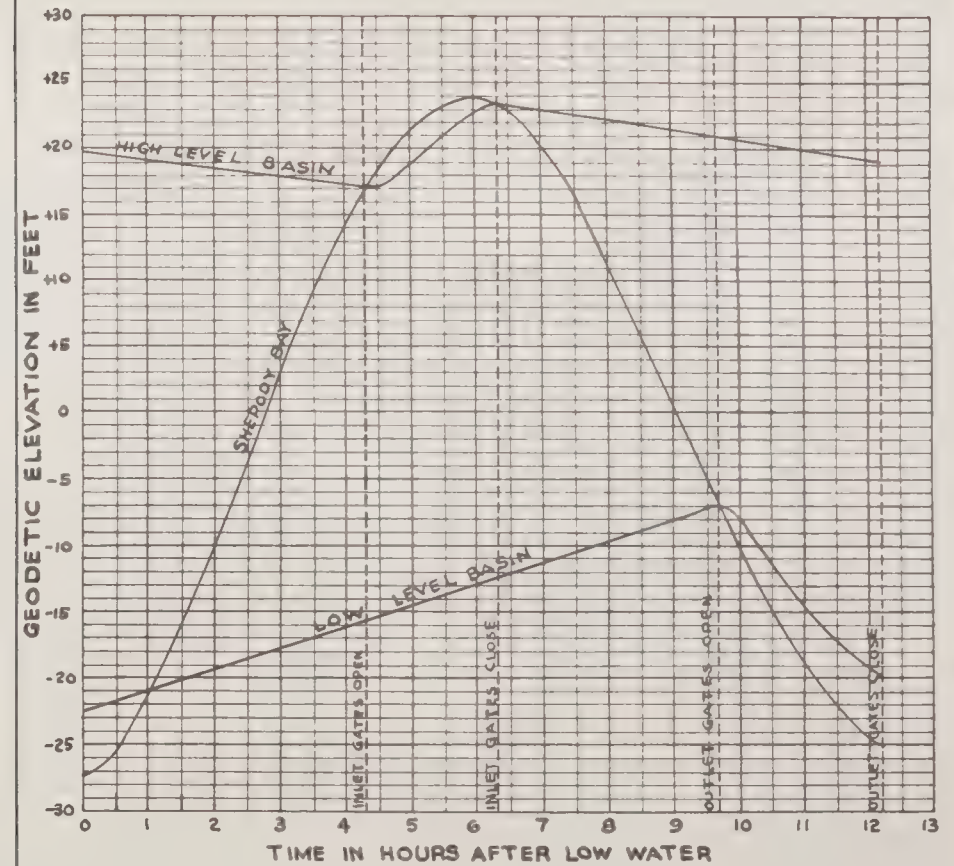


STUDY CONDITIONS
 TIDAL RANGE 41.95 FEET
 28 UNITS OPERATING
 CONTINUOUSLY AT MAXIMUM
 EFFICIENCY.

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MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No - 41 -
<i>H.G. Acres</i>	SEPT: 29 - 1945 JOB No 336	



STUDY CONDITIONS

TIDAL RANGE 50.0 FEET
28 UNITS OPERATING
CONTINUOUSLY AT MAXIMUM
EFFICIENCY.

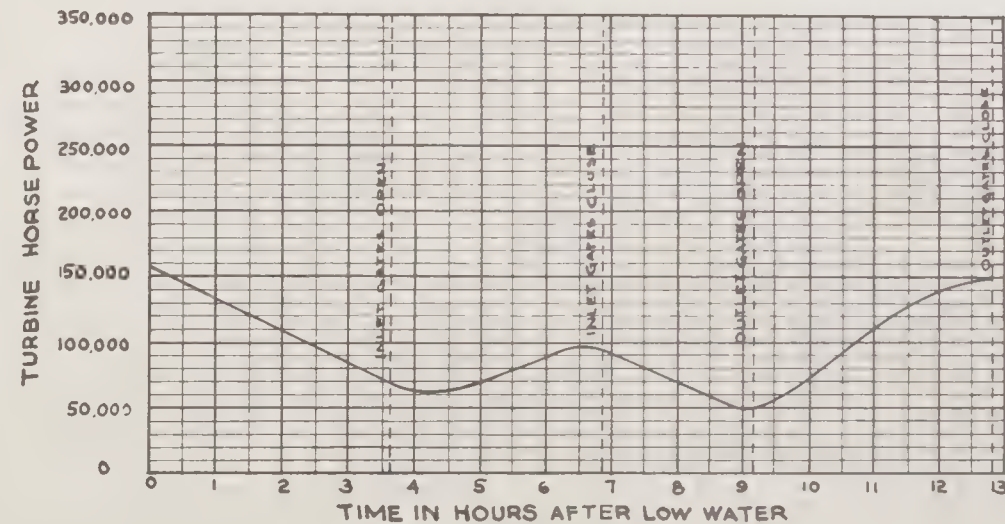
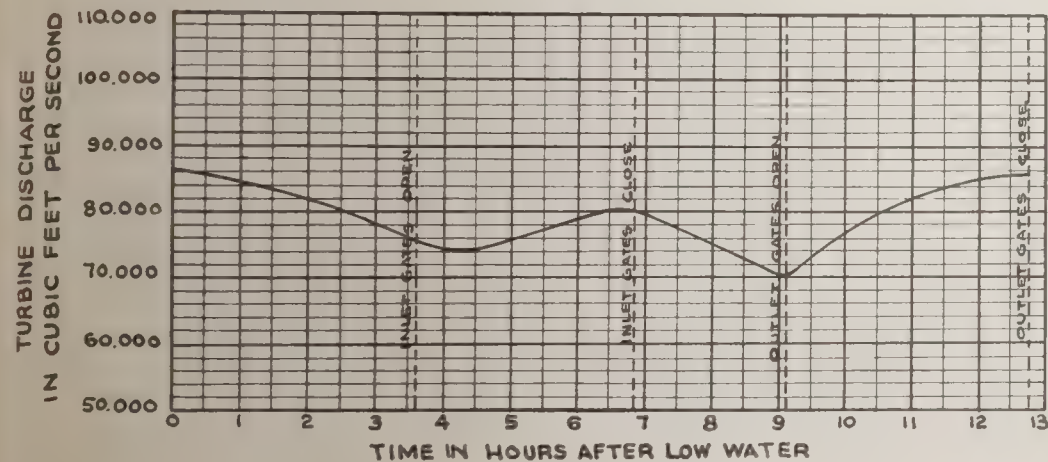
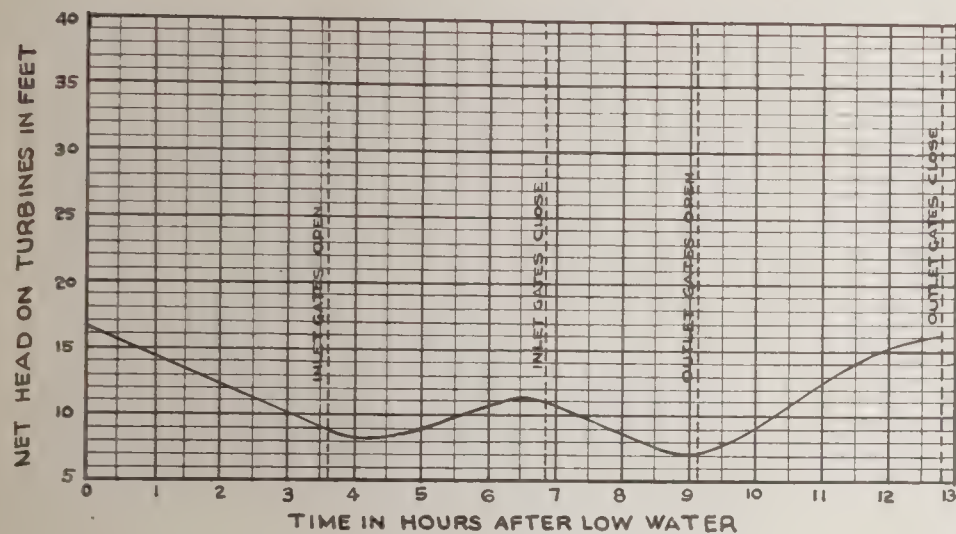
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POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No - 42-
<i>H. G. Acres</i>	SEPT. 29, 1945 JOB No 336	



STUDY CONDITIONS

TIDAL RANGE 22.07 FEET
25 UNITS OPERATING CONTINUOUSLY
AT MAXIMUM EFFICIENCY.

HG ACRES & COMPANY - CONSULTING ENGINEERS
NIAGARA FALLS, ONTARIO

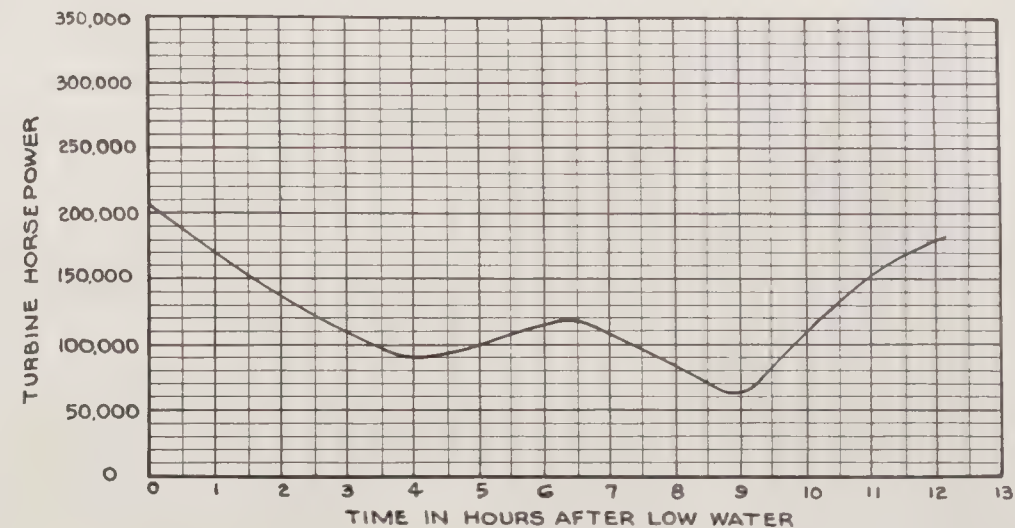
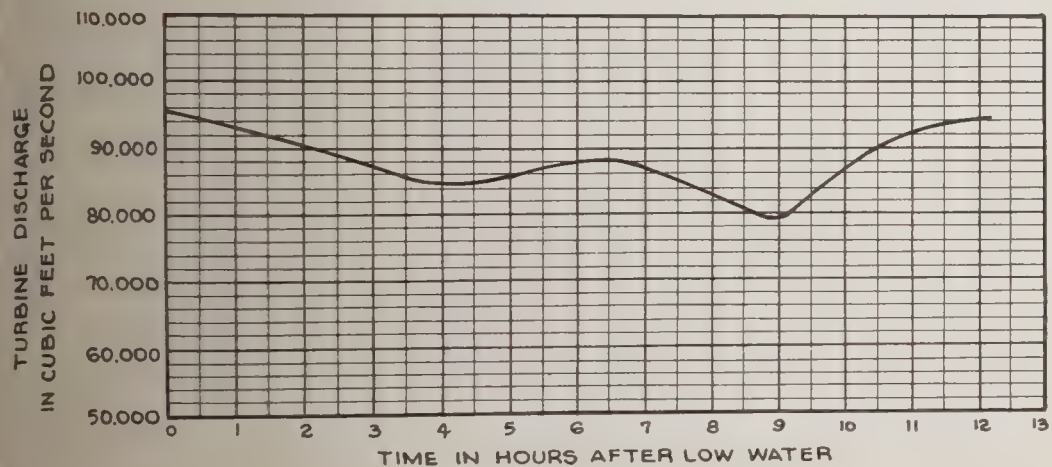
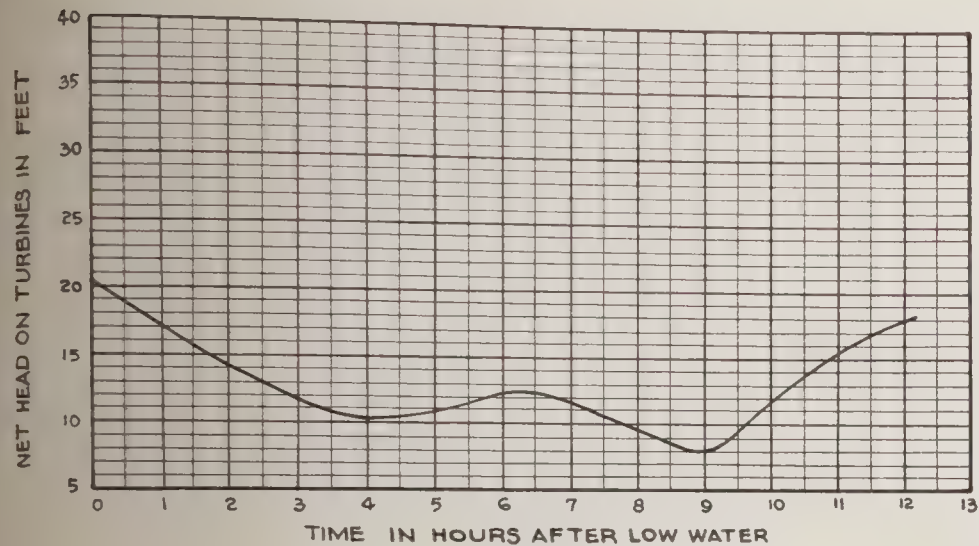
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DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED
H. H. Acres
DATE
SEPT. 29 - 1945
JOB NO 336

PLATE
NO - 43 -



STUDY CONDITIONS
 TIDAL RANGE 25 FEET
 27 UNITS OPERATING CONTINUOUSLY
 AT MAXIMUM EFFICIENCY.

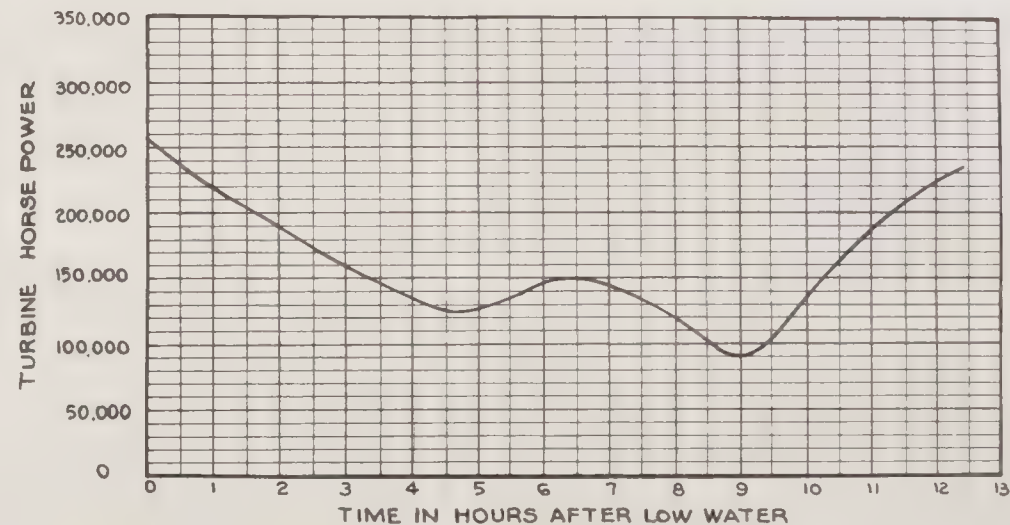
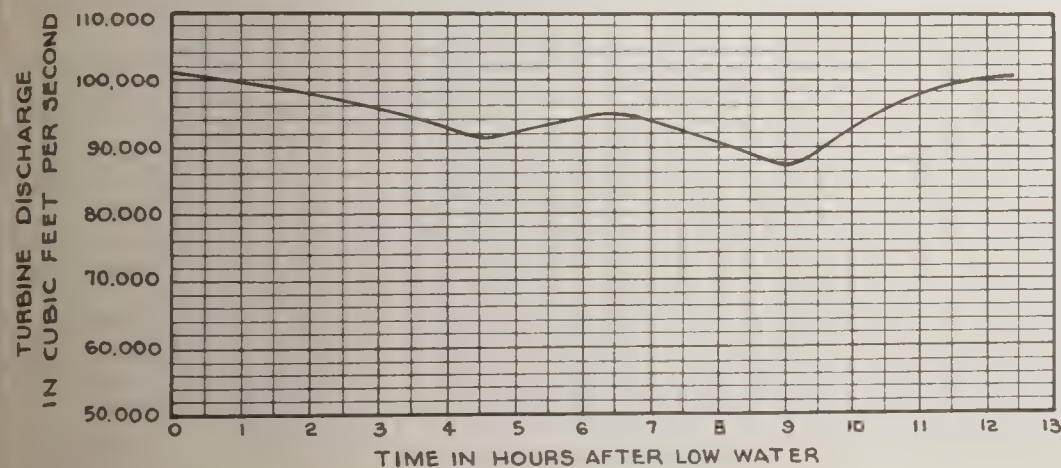
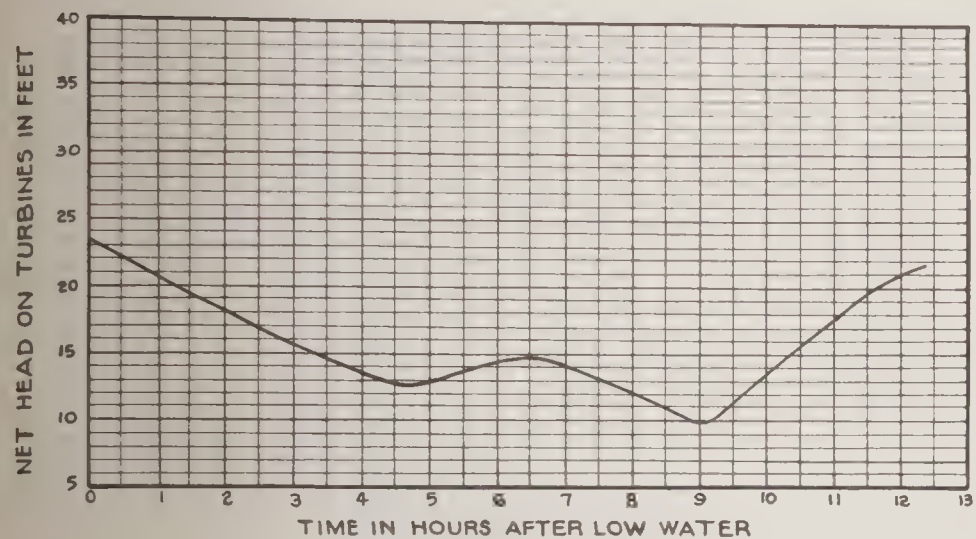
H.G. ACRES & COMPANY - CONSULTING ENGINEERS
 NIAGARA FALLS, ONTARIO

DEPARTMENT OF MINES AND RESOURCES - CANADA
 SURVEYS AND ENGINEERING BRANCH
 DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
 PETITCOODAC AND MEMRAMCOOK ESTUARIES
 PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No-44-
<i>H.G. Acres</i>	SEPT. 29-1945 JOB No 336	



STUDY CONDITIONS

TIDAL RANGE 28.6 FEET
28 UNITS OPERATING CONTINUOUSLY
AT MAXIMUM EFFICIENCY.

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DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

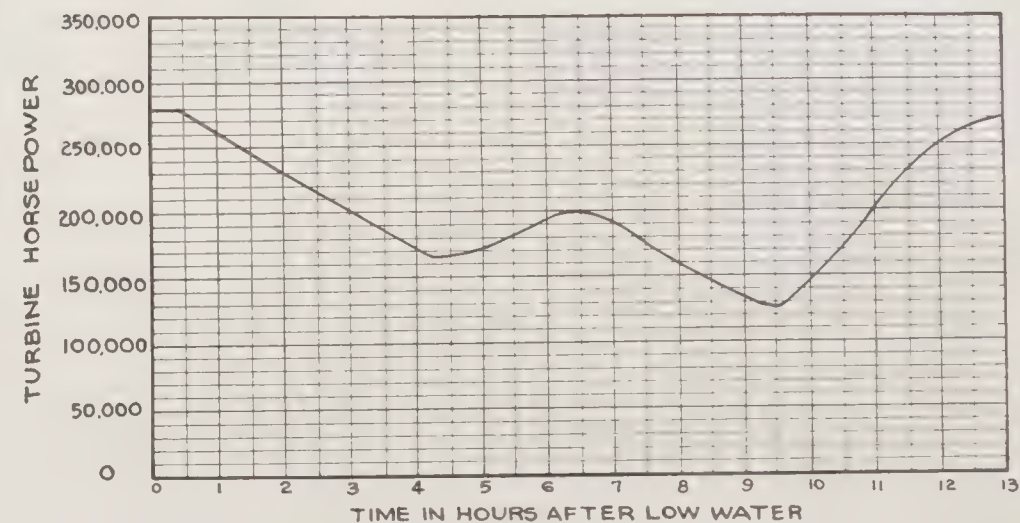
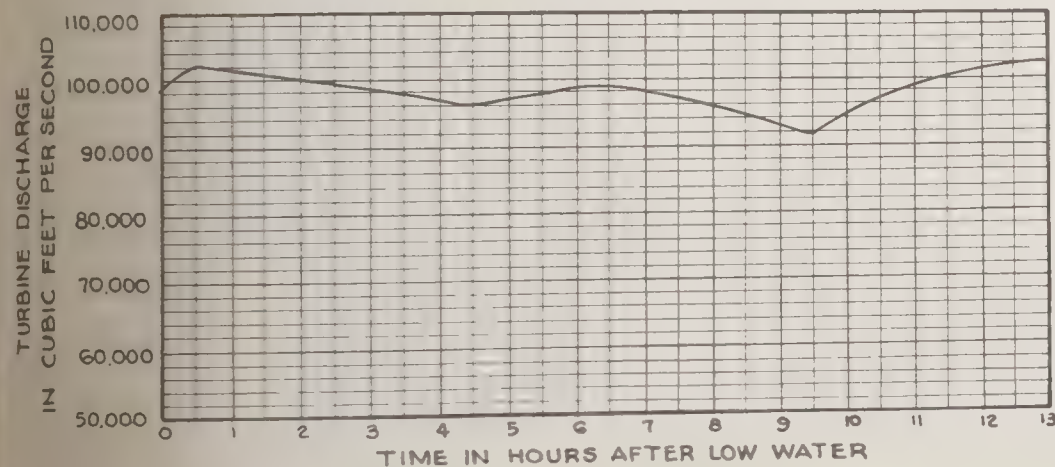
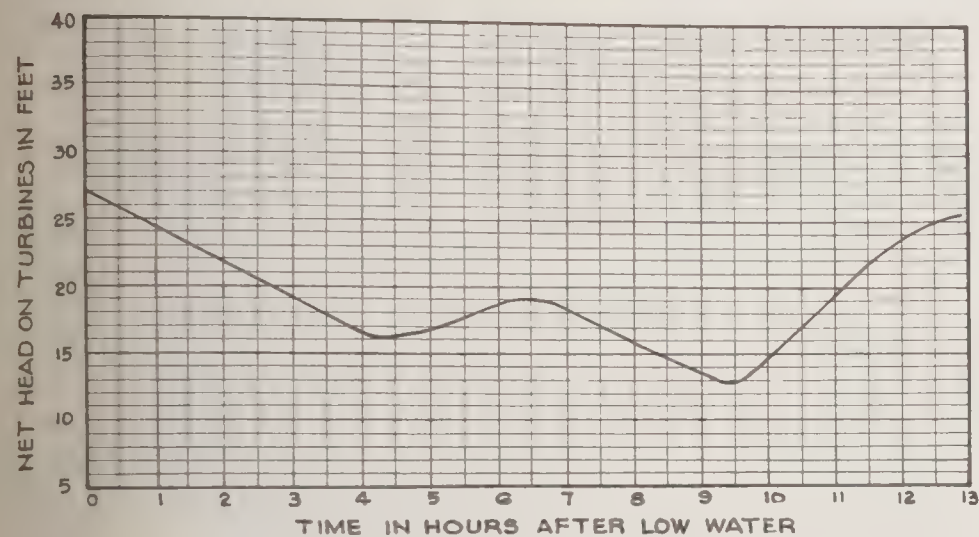
APPROVED DATE

SEPT-29-1945

JOB NO 336

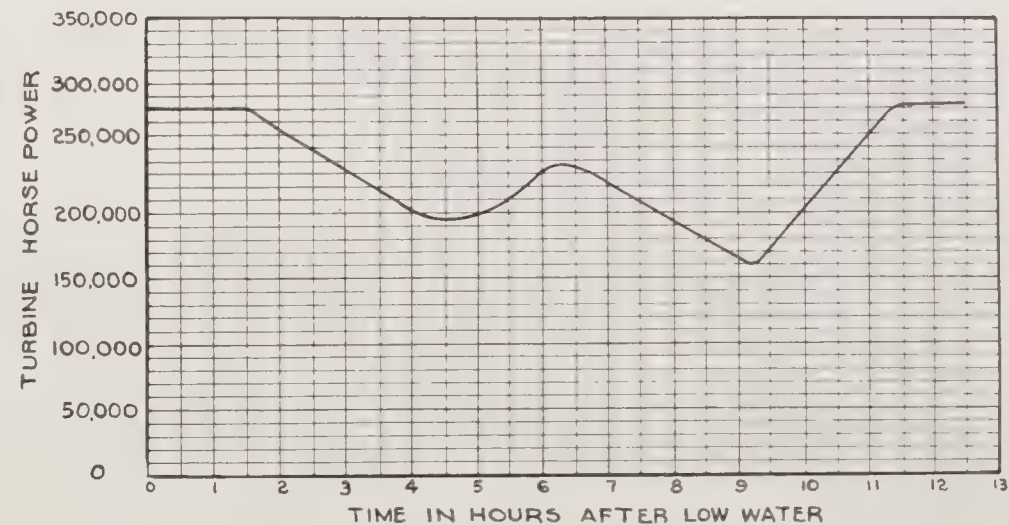
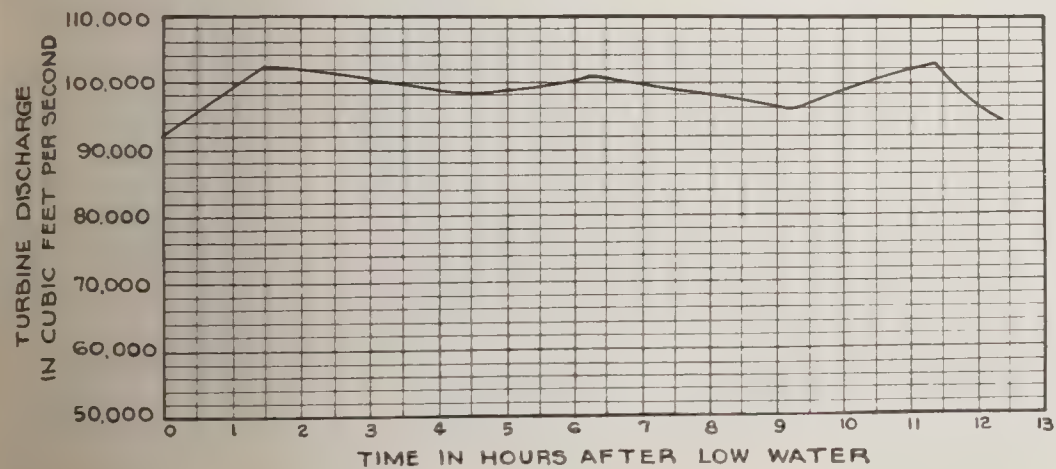
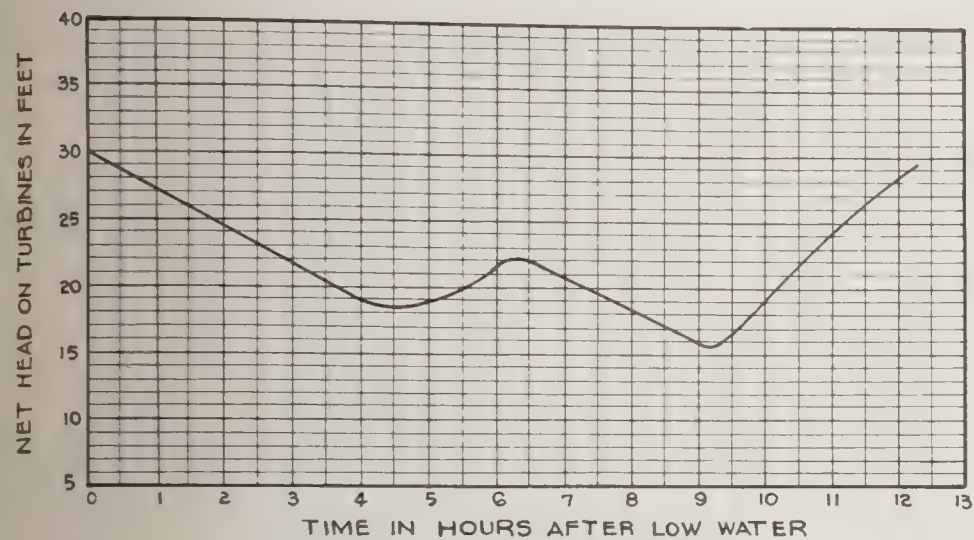
PLATE

NO-45-



STUDY CONDITIONS
 TIDAL RANGE 33.1 FEET
 28 UNITS OPERATING CONTINUOUSLY
 AT MAXIMUM EFFICIENCY.

HG ACRES & COMPANY- CONSULTING ENGINEERS NIAGARA FALLS, ONTARIO	
DEPARTMENT OF MINES AND RESOURCES-CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU	
REPORT ON TIDAL POWER PETITCODIAC AND MEMBRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK	
POWER STUDY MAXIMUM ENERGY PRODUCTION	
APPROVED	DATE
<i>H. H. H.</i>	SEPT. 29 -1945
JOB NO 336	PLATE NO -46-



STUDY CONDITIONS

TIDAL RANGE 37.52 FEET
28 UNITS OPERATING CONTINUOUSLY
AT MAXIMUM EFFICIENCY.

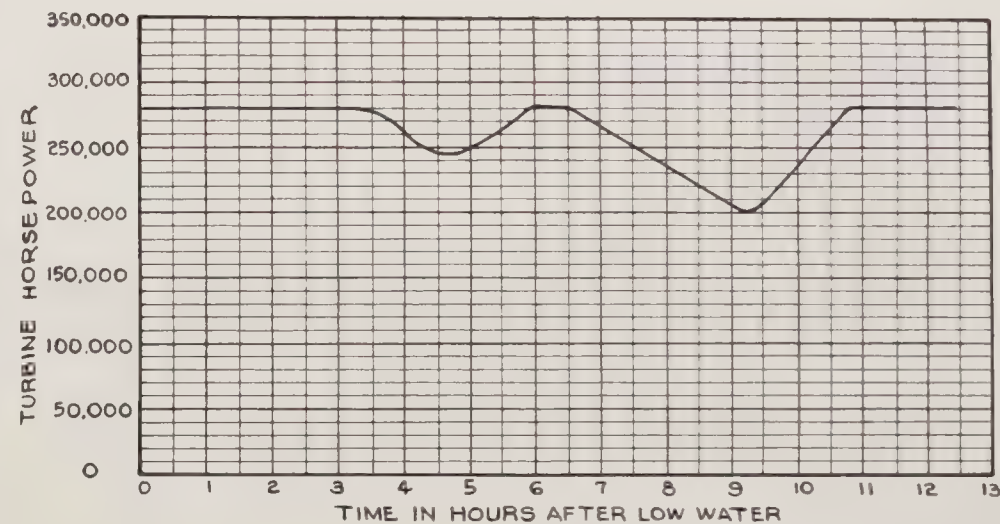
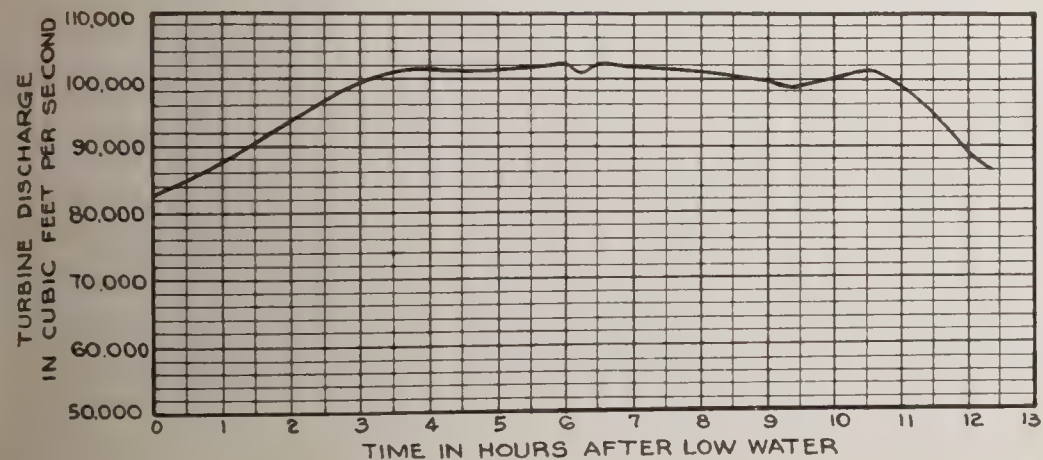
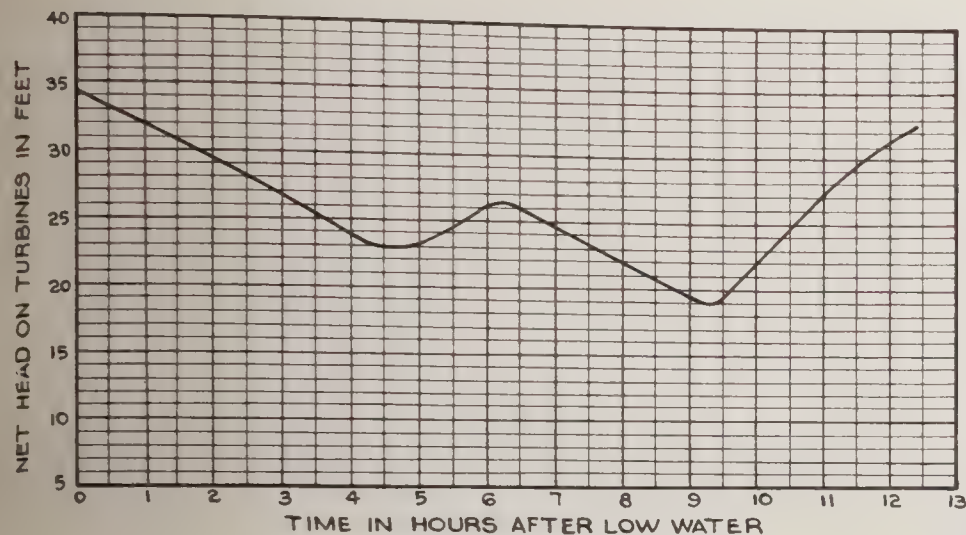
HG ACRES & COMPANY - CONSULTING ENGINEERS
NIAGARA FALLS, ONTARIO

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SURVEYS AND ENGINEERING BRANCH
DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE No-47-
<i>H. G. Acres</i>	SEPT: 29 - 1945 JOB No 336	



STUDY CONDITIONS

TIDAL RANGE 41.95 FEET
28 UNITS OPERATING CONTINUOUSLY
AT MAXIMUM EFFICIENCY.

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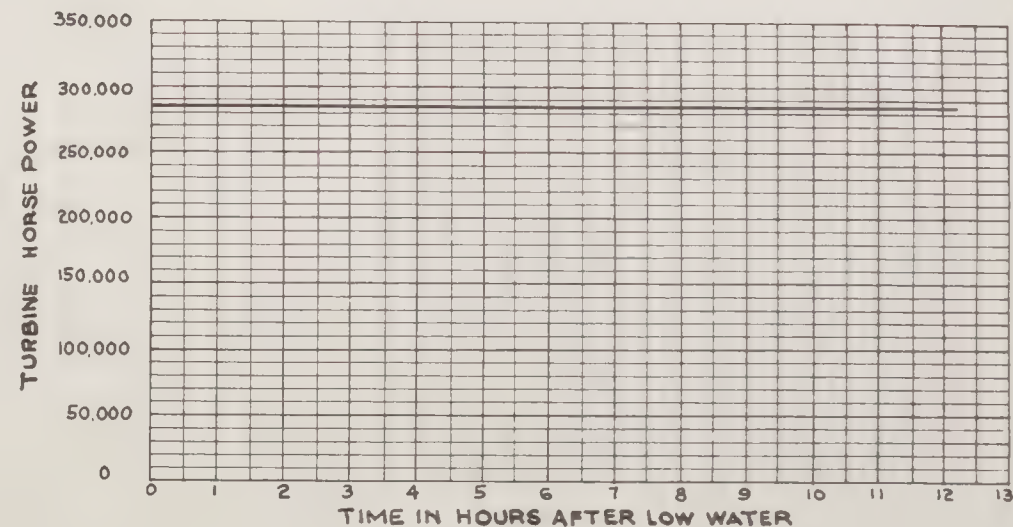
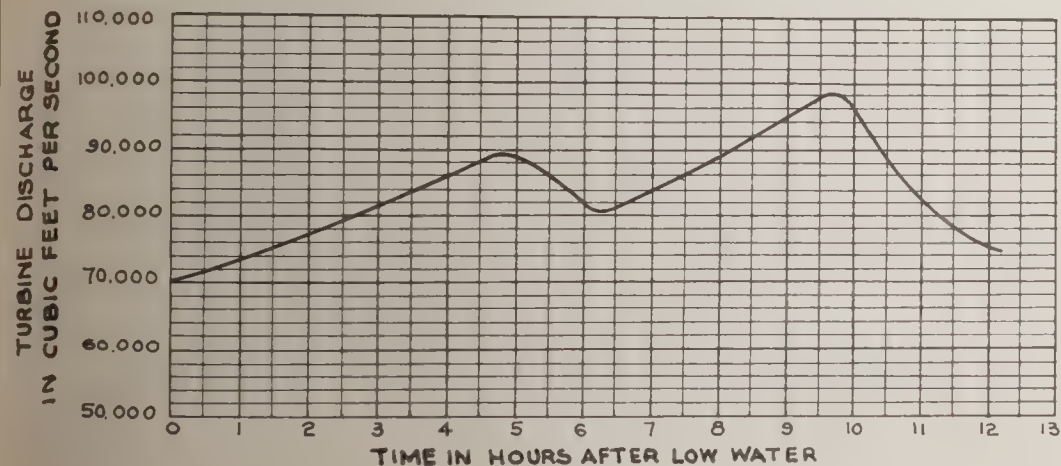
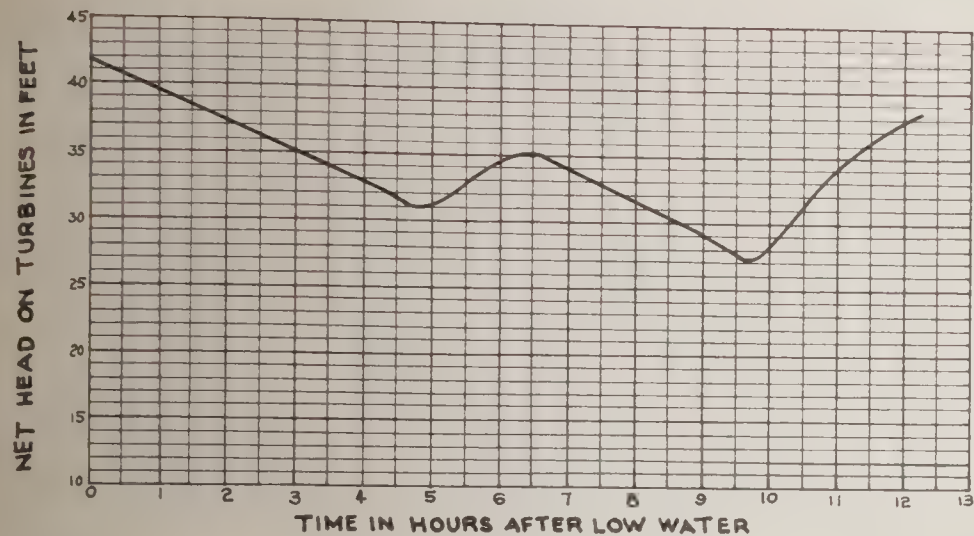
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SURVEYS AND ENGINEERING BRANCH
DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED
H. H. Hume
DATE
SEPT-29-1945
JOB NO 336

PLATE
NO-48-



STUDY CONDITIONS

TIDAL RANGE 50.0 FEET
28 UNITS OPERATING CONTINUOUSLY
AT MAXIMUM EFFICIENCY.

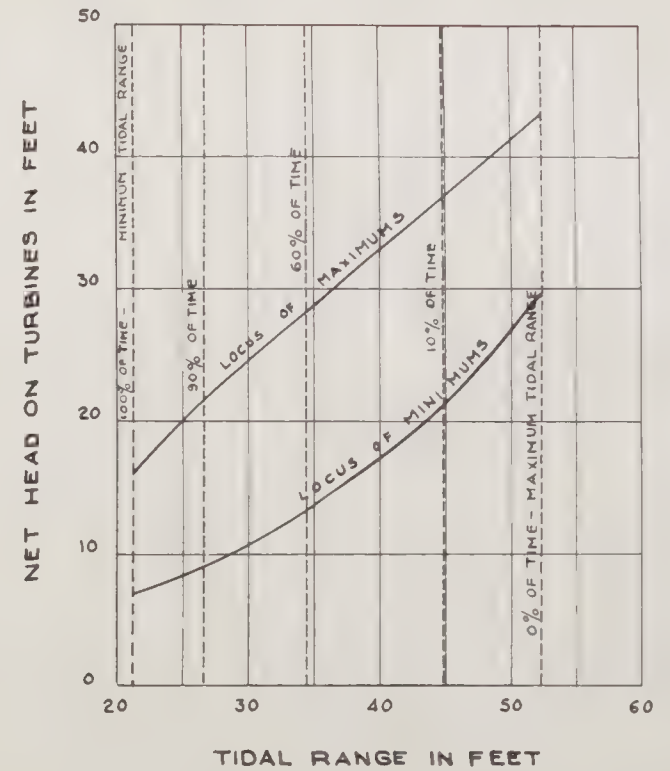
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DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE NO-49-
<i>H.G. Acres</i>	SEPT. 29 - 1945	
JOB NO 336		



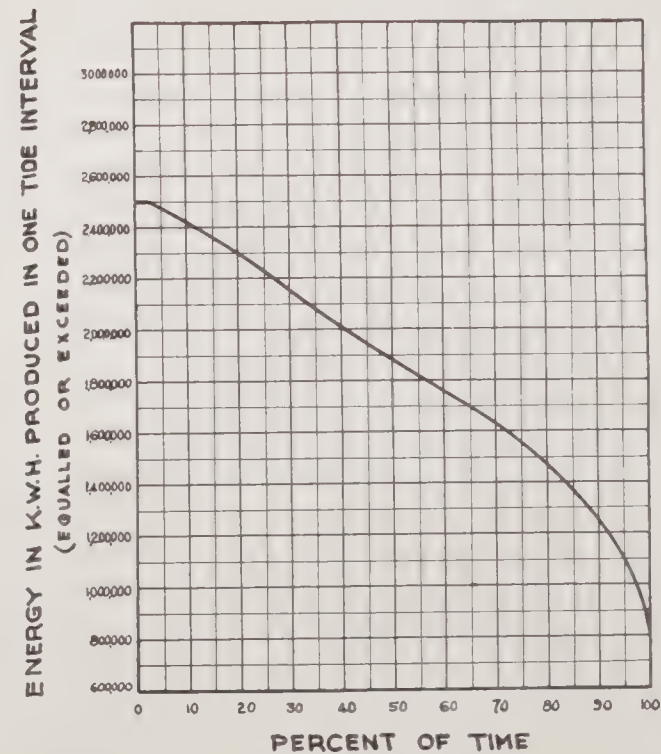
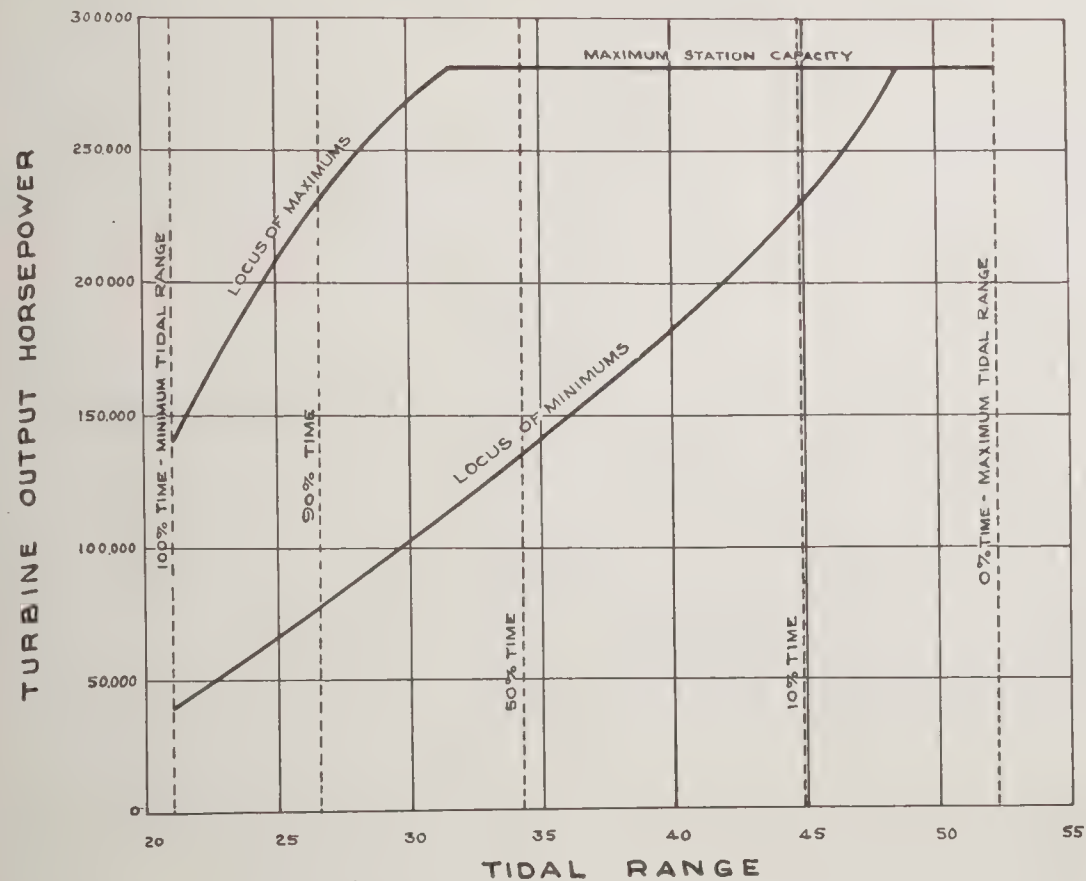
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 DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
 PETITCOOIAK AND MEMRAMCOOK ESTUARIES
 PROVINCE OF NEW BRUNSWICK

POWER STUDY
MAXIMUM ENERGY PRODUCTION

APPROVED	DATE	PLATE NO-50-
<i>H. G. Acres</i>	SEPT: 29-1945 JOB NO 336	



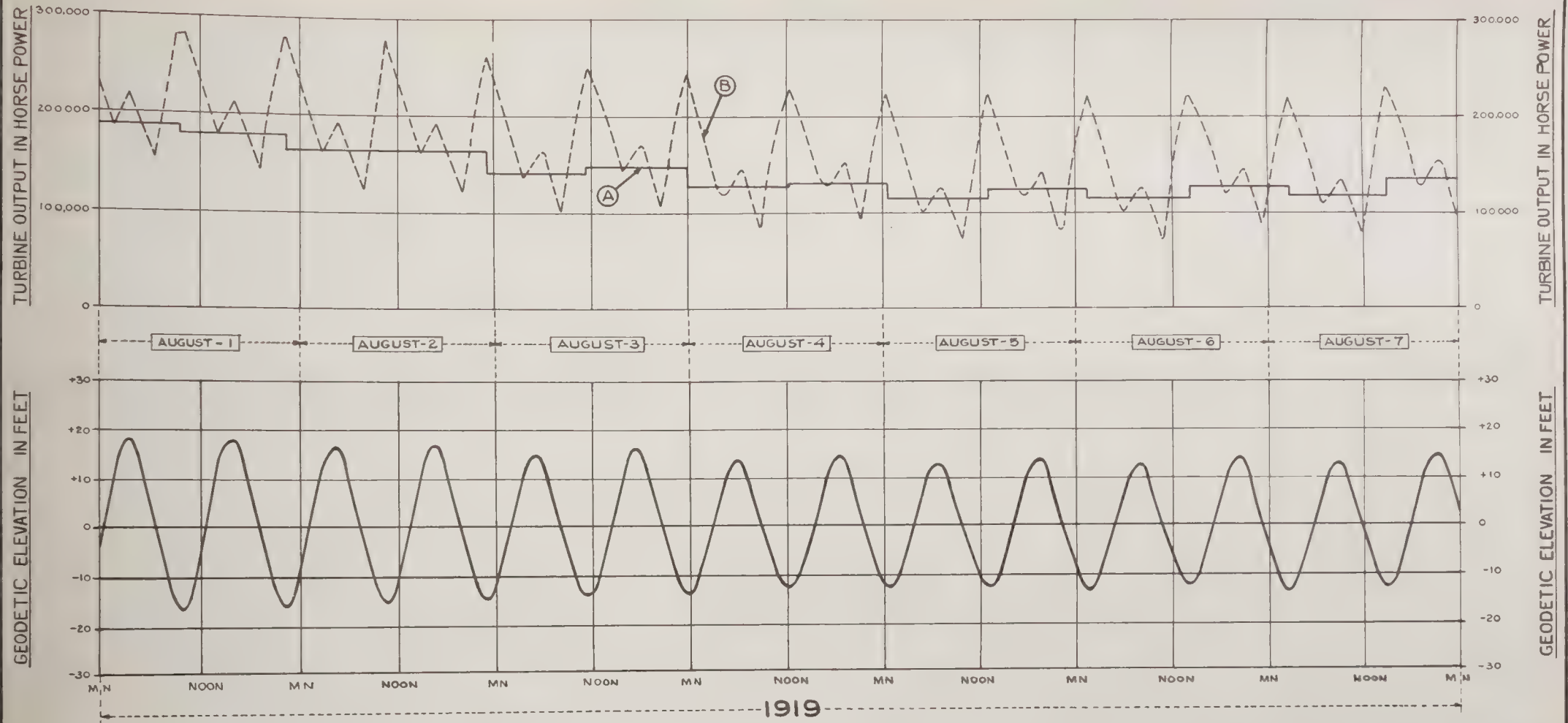
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DEPARTMENT OF MINES AND RESOURCES - CANADA
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 DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
 PETITCODIAC AND MEMRAMCOOK ESTUARIES
 PROVINCE OF NEW BRUNSWICK

POWER STUDY
 MAXIMUM ENERGY PRODUCTION

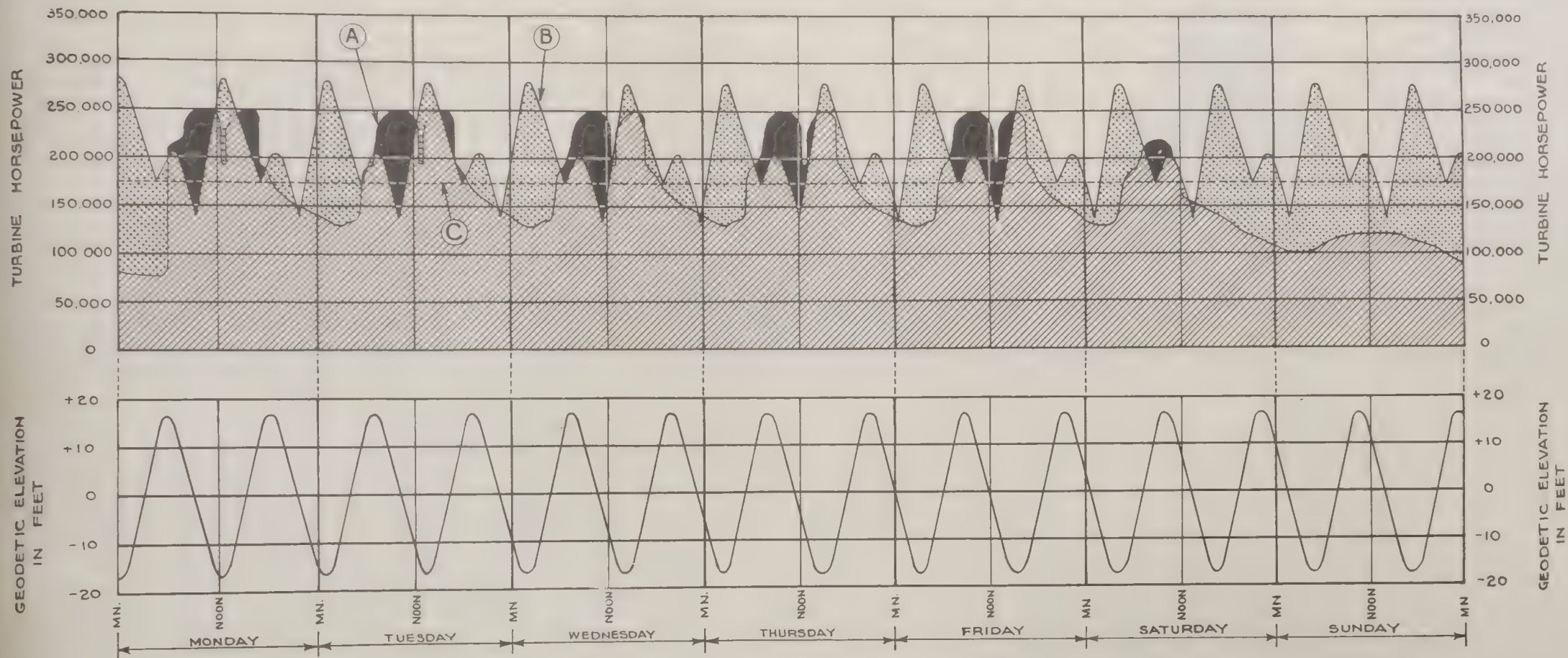
APPROVED	DATE	PLATE No - 51 -
<i>H.G. Acres</i>	SEPT. 29 - 1945 JOB No 336	



LEGEND

- (A) MAXIMUM CONSTANT CONTINUOUS HORSEPOWER
 (B) MAXIMUM ENERGY PRODUCTION

H.G. ACRES & COMPANY-CONSULTING ENGINEERS NIAGARA FALLS, ONTARIO		
DEPARTMENT OF MINES AND RESOURCES-CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
POWER STUDY COMPARISON OF TURBINE OUTPUT		
APPROVED	DATE	PLATE No. 52-
<i>[Signature]</i>	SEP. 29 - 1945 JOB No. 336	



- (A) — LOAD DEMAND
 (B) — HYDRO-ELECTRIC PLANT - TURBINE OUTPUT FOR MAXIMUM ENERGY PRODUCTION
 (C) — HYDRO-ELECTRIC PLANT - TURBINE OUTPUT FOR MAXIMUM CONSTANT CONTINUOUS HORSEPOWER
 // — INDICATES USABLE PORTION OF HYDRO-ELECTRIC PLANT OUTPUT
 - - - — INDICATES PORTION OF LOAD DEMAND WHICH MUST BE CARRIED BY STEAM PLANT
 x x x — INDICATES SURPLUS HYDRO-ELECTRIC PLANT OUTPUT

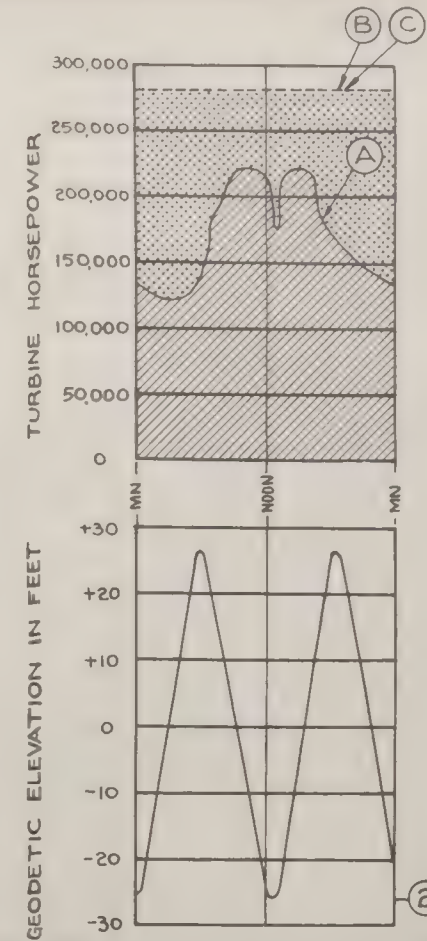
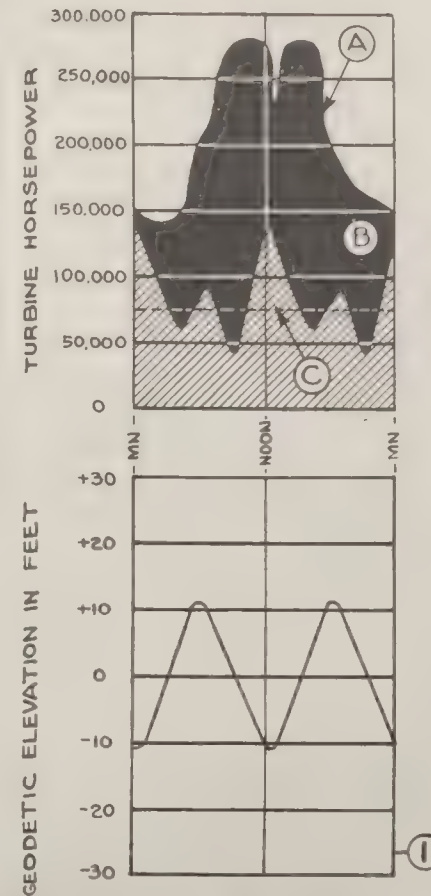
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 SURVEYS AND ENGINEERING BRANCH
 DOMINION WATER POWER BUREAU

REPORT ON TIDAL POWER
 PETITCODIAC AND MEMRAMCOOK ESTUARIES
 PROVINCE OF NEW BRUNSWICK

AVERAGE LOAD DEMAND
 VS. HYDRO-ELECTRIC PLANT
 OUTPUT FOR A WEEK
 OF AVERAGE TIDAL RANGES

APPROVED	DATE	PLATE No - 54 -
<i>H. G. Acres</i>	SEPT. 29-1945	
JOB No 336		



/ / / - INDICATES USABLE PORTION OF HYDRO-ELECTRIC PLANT OUTPUT
 ■ - INDICATES PORTION OF LOAD DEMAND WHICH MUST BE CARRIED BY STEAM PLANT
 x x x - INDICATES SURPLUS HYDRO-ELECTRIC PLANT OUTPUT

- ① — MAXIMUM WINTER DEMAND ON A DAY OF MINIMUM TIDAL RANGE
 ② — MINIMUM SUMMER DEMAND ON A DAY OF MAXIMUM TIDAL RANGE
 A — LOAD DEMAND
 B — HYDRO-ELECTRIC PLANT - TURBINE OUTPUT FOR MAXIMUM ENERGY PRODUCTION.
 C — HYDRO-ELECTRIC PLANT - TURBINE OUTPUT FOR MAXIMUM CONSTANT CONTINUOUS HORSEPOWER

HG. ACRES & COMPANY - CONSULTING ENGINEERS
NIAGARA FALLS, ONTARIO

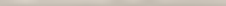




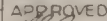
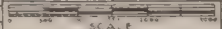
DEPARTMENT OF MINES AND RESOURCES - CANADA
SURVEYS AND ENGINEERING BRANCH
DOMINION WATER POWER BUREAU

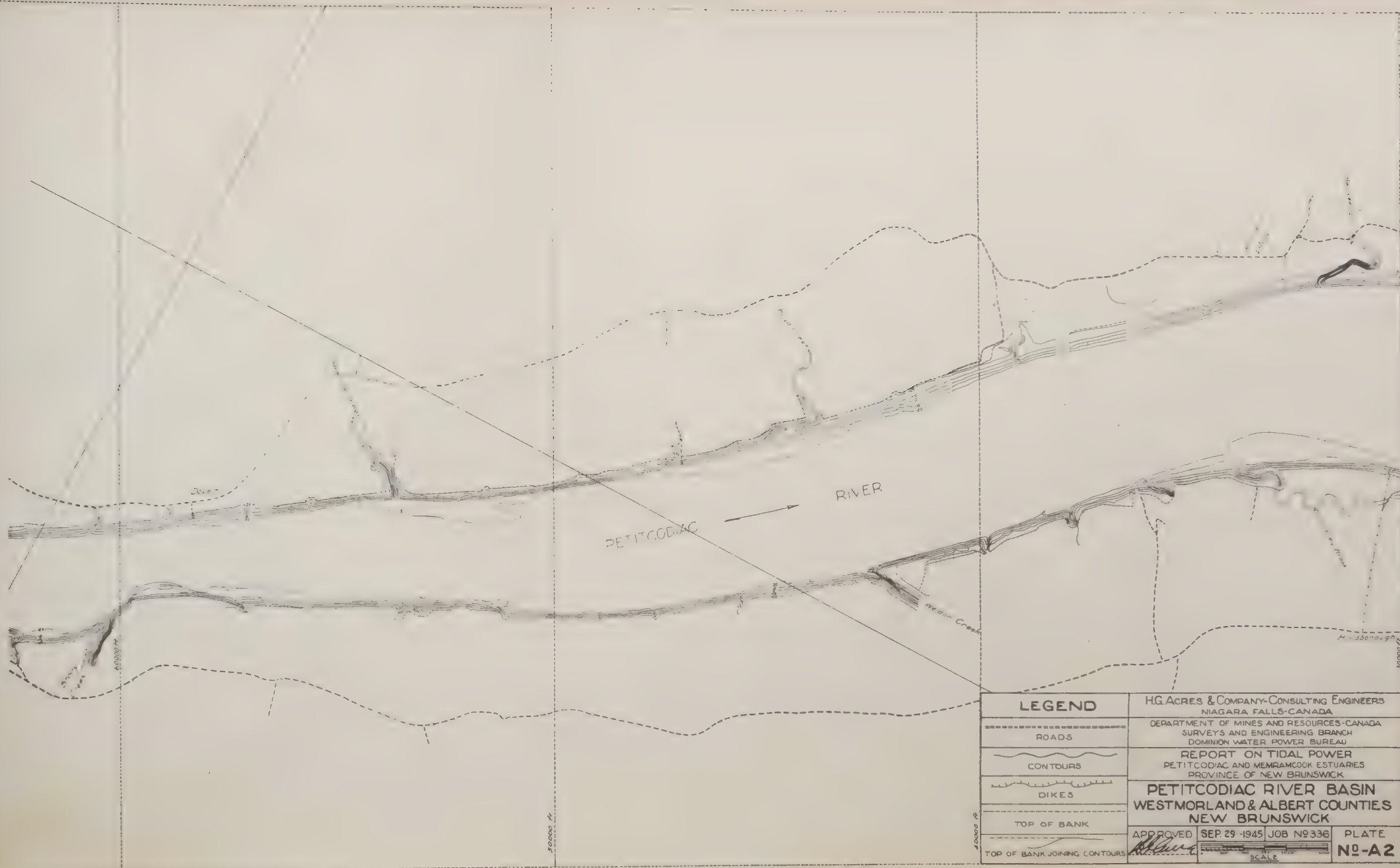
REPORT ON TIDAL POWER
PETITCODIAC AND MEMBRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

**COMPARISON OF
LOAD DEMAND AND
HYDRO-ELECTRIC PLANT OUTPUT**

APPROVED	DATE	PLATE No 55-
<i>[Signature]</i>	SEPT. 29-1945 JOB No 336	



LEGEND  ROADS  CONTOURS  DIKES  TOP OF BANK  TOP OF BANK JOINING CONTOURS	H.G. ACRES & COMPANY CONSULTING ENGINEERS NIAGARA FALLS, CANADA DEPARTMENT OF MINES AND RESOURCES-CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK PETITCODIAC RIVER BASIN WESTMORLAND & ALBERT COUNTIES NEW BRUNSWICK	
APPROVED 	SEP 29 1945 JOB NO 336	PLATE NO-A1
 0 500 1000 1500 2000 SCALE Feet		



PETITCODIAC RIVER

LEGEND ROADS CONTOURS DIKES TOP OF BANK TOP OF BANK JOINING CONTOURS	H.G. ACRES & COMPANY-CONSULTING ENGINEERS NIAGARA FALLS-CANADA DEPARTMENT OF MINES AND RESOURCES-CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK PETITCODIAC RIVER BASIN WESTMORLAND & ALBERT COUNTIES NEW BRUNSWICK		
	APPROVED 	SEP 29 1945 	JOB N9336
	PLATE N9-A2		
	SCALE 		
	1:50,000		



LEGEND	HG ACRES & COMPANY-CONSULTING ENGINEERS NIAGARA FALLS-CANADA		
	DEPARTMENT OF MINES AND RESOURCES-CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
	REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
	PETITCODIAC RIVER BASIN WESTMORLAND & ALBERT COUNTIES NEW BRUNSWICK		
ROADS	APPROVED	SEP 29 1945	JOB Nº 336
CONTOURS	TOP OF BANK JOINING CONTOURS		PLATE
DIKES	SCALE		Nº-A3



LEGEND ROADS CONTOURS DIKES TOP OF BANK TOP OF BANK JOINING CONTOURS	HG. ACRES & COMPANY-CONSULTING ENGINEERS NIAGARA FALLS-CANADA DEPARTMENT OF MINES AND RESOURCES-CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK PETITCODIAC RIVER BASIN WESTMORLAND & ALBERT COUNTIES NEW BRUNSWICK		
	APPROVED	SEP. 29-1945	JOB NO 336
	PLATE		
	NO-A4		
	SCALE		

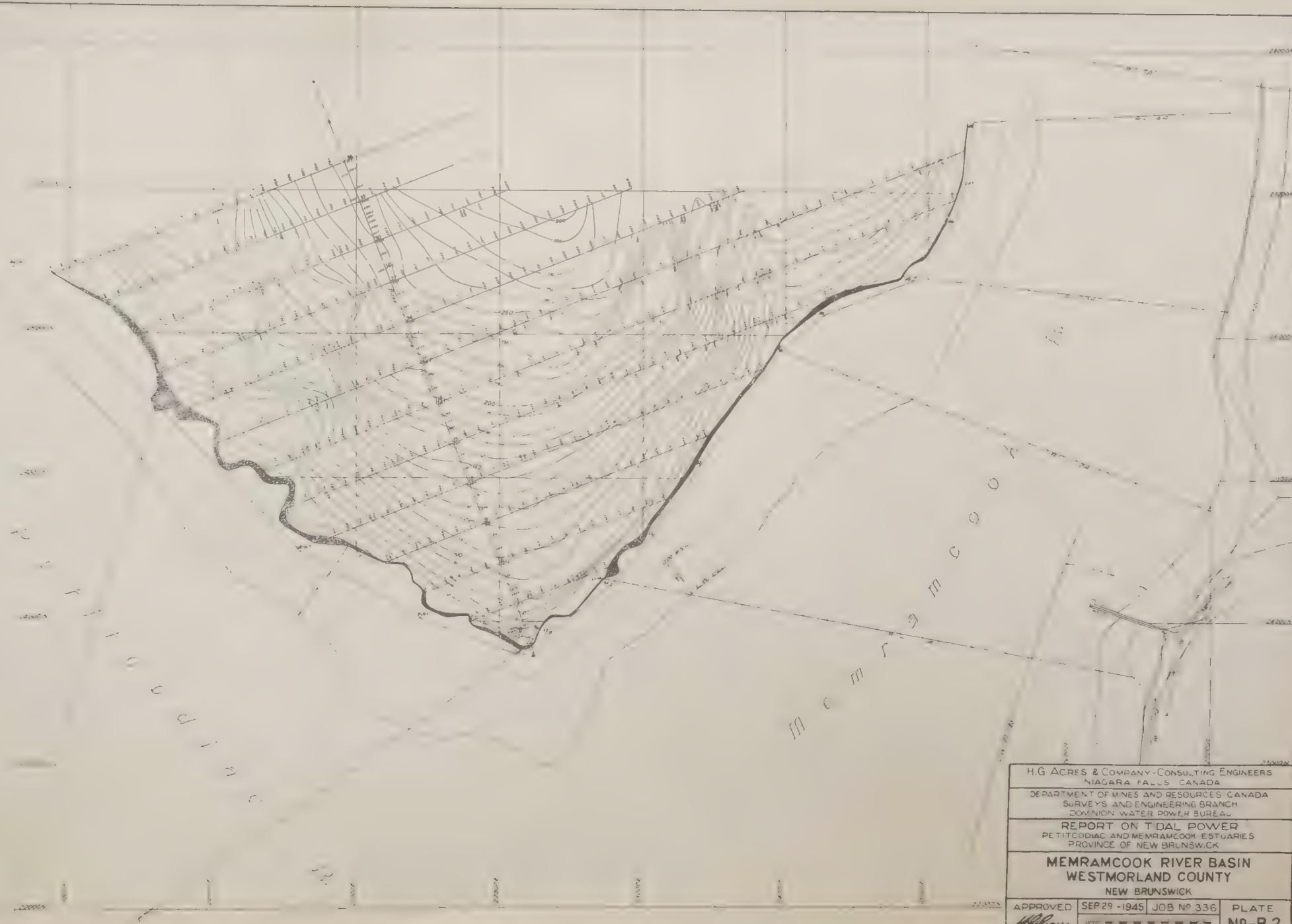


LEGEND	H.G. ACRES & COMPANY CONSULTING ENGINEERS NIAGARA FALLS, CANADA		
	DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
	REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
	PETITCODIAC RIVER BASIN WESTMORLAND & ALBERT COUNTIES NEW BRUNSWICK		
	APPROVED	SEP. 29 1945	JOB N9336
ROADS	SCALE		
CONTOURS	1:50,000		
DIKES	1:50,000		
TOP OF BANK	1:50,000		
TOP OF BANK JOINING CONTOURS	1:50,000		

PLATE
Nº-A5



H.G. ACRES & COMPANY - CONSULTING ENGINEERS NIAGARA FALLS - CANADA		
DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK		
APPROVED <i>H.G. Acres</i>	SEP 29 - 1945 JOB NO 336	PLATE No-B 1



H.G. ACRES & COMPANY - CONSULTING ENGINEERS NIAGARA FALLS, CANADA			
DEPARTMENT OF MINES AND RESOURCES, CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU			
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK			
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK			
APPROVED <i>H. G. Acres</i>	SEP 29 - 1945	JOB NO 336	PLATE NO-B2





H.G. ACRES & COMPANY - CONSULTING ENGINEERS
NIAGARA FALLS - CANADA

DEPARTMENT OF MINES AND RESOURCES - CANADA
SURVEYS AND ENGINEERING BRANCH
DOMINION WATER POWER BUREAU

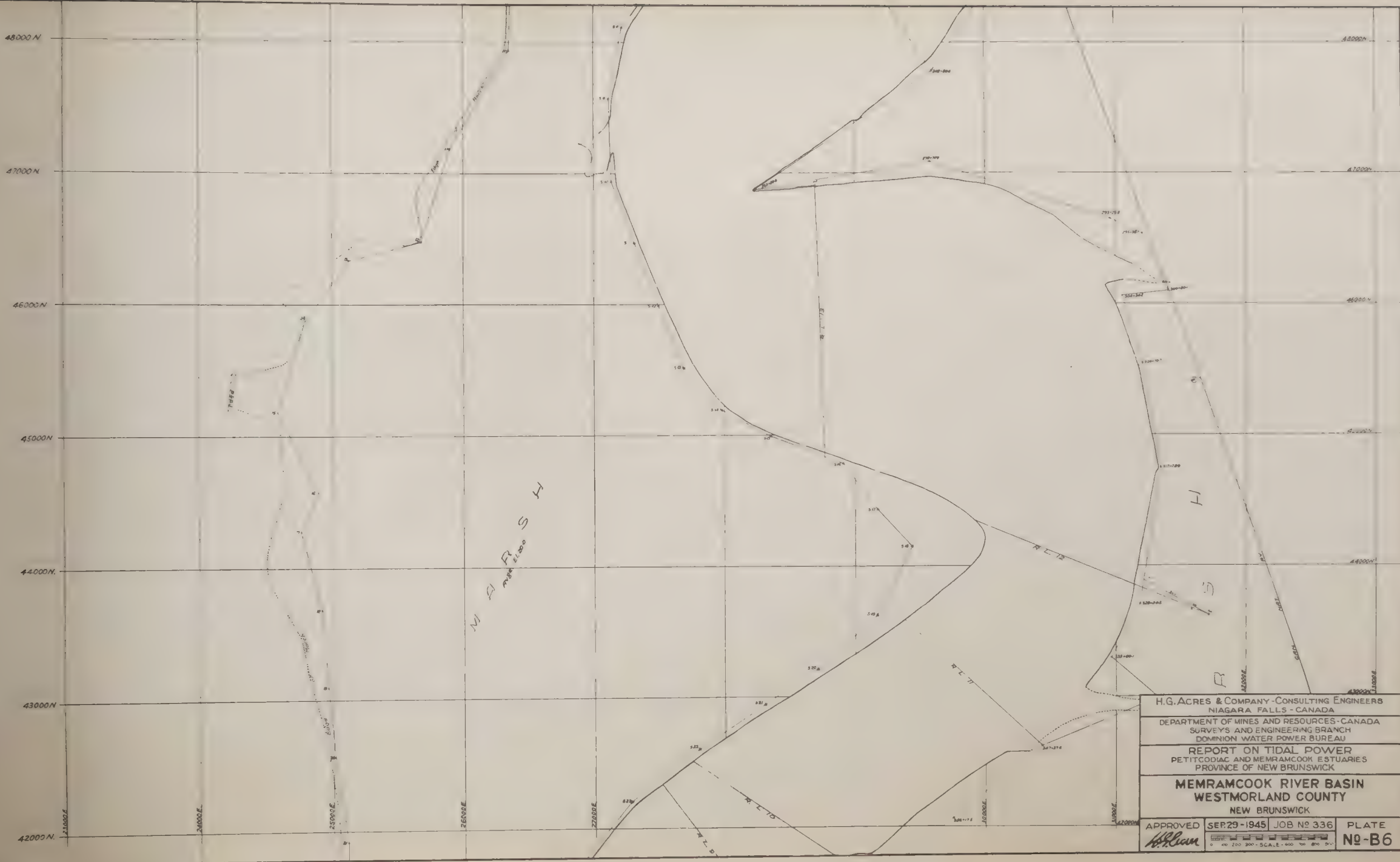
REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK

MEMRAMCOOK RIVER BASIN
WESTMORLAND COUNTY
NEW BRUNSWICK

APPROVED *H.G. Acres* SEP. 29 - 1945 JOB NO. 336 PLATE
0 100 200 300 - SCALE - 1" = 100' NO. B-4



H.G. ACRES & COMPANY - CONSULTING ENGINEERS NIAGARA FALLS - CANADA		
DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK		
APPROVED <i>H. G. Acres</i>	SER 29 - 1945	JOB NO 336
0 500 1000 1500 - SCALE - 1" = 1000'		PLATE NO - B5



H.G. ACRES & COMPANY - CONSULTING ENGINEERS NIAGARA FALLS - CANADA		
DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK		
APPROVED <i>H.G. Acres</i>	SEP 29 - 1945 JOB NO 336	PLATE No-B6



H.G. ACRES & COMPANY-CONSULTING ENGINEERS NIAGARA FALLS - CANADA		
DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK		
APPROVED <i>H. G. Acres</i>	SEP 29 - 1945 JOB NO 336	PLATE NO-B 7



H.G. ACRES & COMPANY - CONSULTING ENGINEERS NIAGARA FALLS - CANADA		
DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK		
APPROVED <i>H. G. Acres</i>	SEP 29 - 1945 JOB NO 336	PLATE NO-B 8



H.G. ACRES & COMPANY-CONSULTING ENGINEERS
NIAGARA FALLS - CANADA
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REPORT ON TIDAL POWER
PETITCODIAC AND MEMRAMCOOK ESTUARIES
PROVINCE OF NEW BRUNSWICK
MEMRAMCOOK RIVER BASIN
WESTMORLAND COUNTY
NEW BRUNSWICK

APPROVED *H.G. Acres* SEP 29 - 1945 JOB NO 336 PLATE NO-B9
SCALE 1" = 100'



H.G. ACRES & COMPANY - CONSULTING ENGINEERS NIAGARA FALLS - CANADA		
DEPARTMENT OF MINES AND RESOURCES - CANADA SURVEYS AND ENGINEERING BRANCH DOMINION WATER POWER BUREAU		
REPORT ON TIDAL POWER PETITCODIAC AND MEMRAMCOOK ESTUARIES PROVINCE OF NEW BRUNSWICK		
MEMRAMCOOK RIVER BASIN WESTMORLAND COUNTY NEW BRUNSWICK		
APPROVED [Signature]	SER 29 - 1945 JOB NO 336	PLATE NO B10

